the GLOXINIAN

The Journal for Gesneriad Growers

Vol. 55, No. 3 Third Quarter 2005

Cyrtandra compressa

American Gloxinia and Gesneriad Society, Inc.

A non-profit membership corporation chartered by the State of Missouri

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INTEREST GROUPS

Judging — *Appraisal,* 3 issues, $6. Send to Paul Susi, 10 Briarwood Lane, Millerton, NY 12546. (Subscribing to *Appraisal* is part of the responsibility of remaining an active judge.)

Gesneriad Hybridizers Association — *CrossWords,* 3 issues, $8 ($9 outside U.S.A.). Send to Martha Lacy, 260 Stoddards Wharf Rd., Gales Ferry, CT 06335 <wlacy@snet.net>.

Newsletter Editors — *Newsviews*, free to editors; $6 subscription to others. Contact Leslie Milde, 373 Main St., P.O. Box 14, Fremont, NH 03044 <meribush@aol.com>

FRIENDS AT LARGE

Gesneriphiles Internet Discussion Group — To join, visit the website <http://lists.ibiblio.org/mailman/listinfo/gesneriphiles> where you will find instructions for joining the list.

British Streptocarpus Society — <www.streptocarpussociety.org.uk> To join from the USA/Canada send $10 check payable to Dale Martens, 1247 Island View Dr., Sherrard, Illinois 61281. To join from any other country, send £7 or 10€ to Don Corfield, 1019 Warwick Rd, Acocks Green, Birmingham, England, B27 6QJ.

Marie Selby Botanical Gardens — 811 South Palm Avenue, Sarasota, FL 34236 (914-366-5731) <www.selby.org> Gardens open 364 days a year from 10:00 a.m. to 5:00 p.m. Admission fee; members free. Outdoor gardens, tropical display house, tree lab, al fresco lunch cafe, plant, book and gift shops.

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Second Quarter .... January 1
Third Quarter .... April 1
Fourth Quarter .... July 1

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OBJECTS OF THE SOCIETY — The objects of the American Gloxinia and Gesneriad Society, Inc. are to afford a convenient and beneficial association of persons interested in gesneriads, to stimulate a widespread interest in, and gather and publish reliable information about the identification, correct nomenclature, culture and propagation of gesneriads; and to encourage the origination and introduction of new cultivars.

GESNERIAD REGISTRATION — The American Gloxinia and Gesneriad Society, Inc. is the International Registration Authority for the names and cultivars of gesneriads excepting the genus *Saintpaulia*. Any person desiring to register a cultivar should contact Judy Becker, 432 Undermountain Road, Salsbury, CT 06068 <jbecker@mohawk.net>.

AGGS Home Page:
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COVER
Cyrtandra compressa –
photo by John R. Clark of
collected specimen from
the island of Savai'i, Samoa
(elevation: 900 meters).
See article on page 34.

President's Message

Susan Grose <sagrose@aol.com>
4201 West 99th St., Overland Park, KS 66207

Dear Gesneriad Friends,

This is my last message to you as President of AGGS. I can't believe 2 two-year terms have flown by so fast. I have enjoyed writing to members over the last four years and have especially enjoyed receiving the many Chapter Newsletters that let me know what is going on in your local groups.

Our Society's membership has grown during the past four years, and the number of members outside the United States has increased from just a little over 20% to almost 25%! I believe that through plants shared and interesting programs and talks given to many garden groups by our members, the number of people who know what a gesneriad is has greatly increased. So even though "gesneriad" may not quite yet be a household word, it is becoming much better known among gardeners worldwide.

I have been very fortunate during these four years to have worked with so many able AGGS Board members, Committee Chairs, and volunteer Staff, all of whom are the ones truly responsible for keeping our Society running. They do all the real work of our organization. Many of us met for an informal AGGS Board Retreat at the end of January at the Marie Selby Botanical Gardens in Sarasota, Florida. We had some very productive discussions and brainstorming sessions on ways to improve our Society and further publicize what great plants the members of this family are to grow. You will be hearing about some of the results of these discussions in the near future. The other groups who make a large contribution to our Society are the local chapters who take on the responsibility of hosting an annual convention. I wish all members could attend a convention, since once you attend, you will never want to miss one again.

Board Members and friends at the Retreat in Sarasota

I am especially appreciative of our journal editor, Jeanne Katzenstein, her able editorial staff, contributing editors, and many individual authors who put together a wealth of information four times a year. It is through this journal that we all learn about gesneriads – old and new – and tips on how to grow them. Articles such as the ones in this issue on research funded partly through the Elvin McDonald Research Endowment Fund give us all a peek at some current scientific research: Silvana Marten-Rodriguez writes on gesneriads and pollinators in Jamaica, and John R. Clark writes about his interest in the genus *Cyrtandra*. All members are encouraged to write articles for our journal. If you have an area of personal interest or have special tips on the methods you find work for growing your gesneriads, please let the rest of us know by writing an article for THE GLOXINIAN.

Adding to my story about *Drymonia chiribogana* in the last issue, I think I was finally successful in pollinating the very last blossom to open. At least the petiole and calyx are still hanging on and have not fallen off as the first few did within two weeks of the blossom drying. I peeked inside the calyx yesterday, and there is a green swelling giving the appearance that it might contain seed! I will watch closely and keep my fingers crossed.

By the time you read this, I will have passed the gavel to a new president, enjoyed another great convention, and returned home to Kansas to continue growing Achimenes, Nematanthus, Sinningias, Aeschynanthus and experiment with a few new varieties on my patio. Hopefully I will be able to find room under my lights and on my windowsills for all the new plants I will have acquired at the convention. That is always a big challenge.

I would like to leave you with a few thoughts. Remember when you grow gesneriads to try to set seed and contribute to the Seed Fund. Propagate and share your plants with others. You never know how far that gift will ultimately spread. Keep experimenting with new plants and growing methods. The gesneriad plant family is an endless source of fascination and continues to offer exciting challenges in addition to the comfort and satisfaction that the tried and true old favorites provide. Continue to spread your gesneriad knowledge and enthusiasm for growing plants to others. I know of few things more satisfying than helping someone else find new pleasure in growing gesneriads. Finally, and most of all, enjoy your plants and the new friends they will certainly bring you.

Susan

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Coming Events

August 21 — Illinois — The Northern Illinois Gesneriad Society will sponsor an AGGS Judging School with Dale Martens as instructor. The course will be held from 9:00 am to 3:00 pm at the Friendship Park Conservatory, 395 Algonquin Road, Des Plaines. Phone 847-298-3500. The cost for the course, including snacks, is $21. Reservations are requested as seating is limited. For hotel information or other questions, please contact Susan Bradford <asusan.bradford@abbott.com> (847-740-7801).

August 27-28 — California — American Gesneriad Society of San Francisco flower show and sale at the San Francisco County Fair Building, 9th Avenue and Lincoln Way, San Francisco. Sale Saturday 10:00 am – 3:30 pm; show Saturday noon – 3:30 pm; Sunday show and sale 10:00 am – 3:30 pm. Contact Katherine Henwood <oakenhead@att.net>.

September 10 — Pennsylvania — Pittsburgh Violet and Gesneriad Society show and sale at the Galleria, 1500 Washington Road, Mt. Lebanon, Pittsburgh. Saturday 10:00 am – 8:00 pm in the lower lobby. Demonstration of propagation. Contact Georgene Albrecht (724-693-8666) <georgena@verizon.net>.

September 10-11 — California — Delta Gesneriad and African Violet Society dual AGGS and AVSA show and sale at the Sacramento Garden & Arts Center, 3300 McKinley Blvd., Sacramento. Saturday 2:00-5:00 pm; Sunday 10:00 am - 4:00 pm. Free parking and admission; hundreds of sale plants; free growing advice. Contact Lynn Lombard (530-677-5120) <lynn_lombard@worldnet.att.net>.

September 17-18 — Colorado — Gloxinia Gesneriad Growers annual show and sale at the Denver Botanic Gardens, 1005 York St., Denver. Saturday 1:00 – 4:30 pm; Sunday 10:00 am – 4:30 pm. Usual Denver Botanic Gardens fees apply. Contact Ann Watterson <cah2oson@msn. com> (303-467-2135).

September 24-25 — Massachusetts — Annual Combined Plant Societies' Show and Sale at the Tower Hill Botanic Garden, 11 French Drive, Boylston. Saturday noon – 5:00 pm; Sunday 10:00 am – 5:00 pm. Participating will be the New England Chapter of AGGS and the Buxton Branch of the American Begonia Society. Admission: $8 adults, $5 seniors and youths (6-18). Contact Dee Stewart (978-897-6822) <dee.stewart@110.net>.

October 1-2 — Missouri — Heart of America Gesneriad Society annual judged show and plant sale at the Loose Park Garden Center Building, 5200 Pennsylvania Ave., Kansas City. Show entries Friday 8:30 am – 11:00 am. Show and plant sale open to the public 10:00 am – 3:00 pm Saturday and Sunday. Contact Susan Grose <sagrose@aol.com>. Garden Center phone 816-784-5300. Flower Show Chair Nancy Moerer.

October 1-2 — Florida — Two judged shows and plant sales hosted by the Tampa Bay Gesneriad Society and African Violet Council of Florida at Lakeland Holiday Inn Hotel and Conference Center, 3260 US Hwy 98N (I-4 Exit 32), Lakeland. Saturday sales 9:00 am – 6:00 pm; Saturday show 11:00 am – 6:00 pm; Sunday show and sales 11:00 am – 5:00 pm. Any exhibitor may enter the gesneriad show but must be a member in good standing of TBGS to win Best In Show. Free admission. Contact Carol Schreck <carolschreck@juno.com> (863-533-7288).

October 2 — New Jersey — Frelinghuysen Arboretum Gesneriad Society annual judged show and plant sale at the Frelinghuysen Arboretum in Morristown. Sunday 11:00 am – 4:00 pm. Free admission and parking; handicapped accessible. Contact Jeanne Katzenstein <jkatzenste@aol.com> (973-627-2755).

In Memoriam

Gayle Gill	Kansas City, Missouri
Ruth Jo McCoy	Galt, California
Mary Walbrick	Wichita Falls, Texas
Rosemary Smith	RBGE, Scotland
Paddy Woods	RBGE, Scotland

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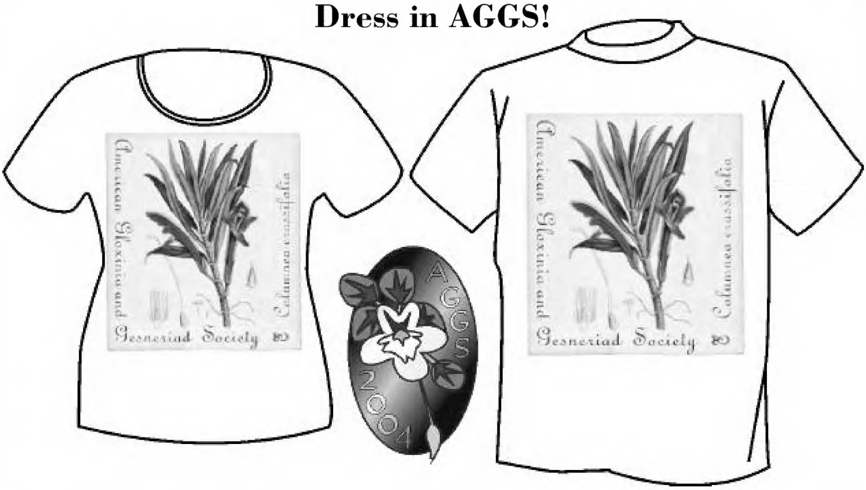
American Gloxinia and Gesneriad Society
Columnea crassifolia
American Gloxinia and Gesneriad Society
Columnea crassifolia
AGGS 2004

If you can't make it to Brazil to see *Sinningia pusilla* growing in habitat on a sheer rock wall, wear the 2004 AGGS lapel pin. The lavender flower looms large over tiny patterned green leaves against a mossy background. 1" long. $5.00

The newest AGGS tee shirt comes in white or natural. The words "American Gloxinia & Gesneriad Society" and the name of the plant wrap around an antique engraving of *Columnea crassifolia*. Bright red flowers contrast with spring green leaves and delicate pink midribs. Like Columnea, you'll be an exotic beauty when you dress in AGGS!

Ribbed-neck tee in white or natural, 100% cotton, sizes S - XXL $15.00

Scoop-neck blouse with shorter sleeves and bodice, white only, cotton-rayon blend, sizes S-XL $15.00

Send check or money order payable to AGGS, Inc. to:

Carol Ann Bonner
AGGS Publicity & Membership Promotion
3705 Tibbs Drive
Nashville, TN 37211-3413

Seed Fund

Bob & Carol Connelly <Bob_Connelly@email.msn.com>
2391 Phillips Drive, Aubern Hills, MI 48326-2450

We would like to apologize for some longer than normal delays on filling seed orders earlier in the year. There were a number of orders during the late February to mid-March time frame that took us more than two months to process and ship, longer than the normal 4-6 week processing time. We had some health and computer-related problems during that time, but we are gradually getting caught up. Thank you for your patience.

We also would like to remind people of the limit of one seed packet of a single variety per order. We are still getting a few orders for multiple packets. We are also seeing orders from a few people for the same varieties of seed in each order. We would be interested in hearing from some of you as to why this is so – we hope that those of you who have ordered realize that any seed that is leftover from a planting can be saved in the refrigerator for many years and that more plants can be propagated vegetatively. But we also suspect that the cutting back on the number of seeds in a packet for those varieties in short supply, and reduced viability for some varieties that were probably donated more than ten years ago, are also contributing to people requesting the same varieties each time.

One thing that would probably help is to let us know about seed varieties that do not germinate. Some we are hearing about for the first time on Gesneriphiles. If we see a pattern developing, we may need to do some viability tests and pull that variety from the list. We suspect that many varieties of seed were donated more than ten years ago without being replenished by new donations. We will continue to offer these seeds as long as there is some viability – a few seeds sprouting is better than none at all, particularly when the Seed Fund may be the only source for these.

Another reminder: please include a self-addressed stamped envelope with your order. For US orders of over 10 packets, please include a 60-cent stamp. For non-US credit card orders, we will add the postage to the credit card total, but a self-addressed envelope really saves us time and work and helps insure the accuracy of the address.

We would like to thank the most recent contributors to the Seed Fund for their generosity: Marilyn Allen, Marlene Beam, Ruth Coulson, Arlene Dewell, Doreen Dragon, Jeff Foederer, Susan Grose, Thad Holcomb, Kypko Imai, Alan & Debra LaVergne, Martha Lacy, Leong Tuck-Lock, Tien-Chi Liao, Maureen Lynch, Charlene Marietti, Jo Anne Martinez, Johnnie Rainey, Carolyn Ripps, Lee Stradley, and William Weed.

(A)	Alpine or cool greenhouse
(B)	Suitable for hanging basket
(D)	Has dormant period, forming tubers or rhizomes
(F)	Blooms readily in fluorescent light
(G)	Recommended for greenhouses; requires space
(H)	Requires humidity and warmth
(L)	Low growing; not more than 12"
(LM)	Low to medium height
(M)	Medium height; 1 to 2 feet
(MT)	Medium to tall
(P)	Petite or miniature; not more than 6 inches tall
(R)	Rosette in form
(S)	Requires sun to bloom
(T)	Tall plants; generally over 3 feet
(U)	Unifoliate or single leaf

Achimenes (D)
cettoana (B)
erecta (B)
erecta 'Tiny Red' (F,L)
- *grandiflora* 'Robert Dressler' (B)
- hybrid mix (B,L)

Aeschynanthus (B)
- *boschianus*

buxifolius 913296
ellipticus 'Coral Flame'
evrardii
fulgens USBRG82-271
humilis USBRG94-214
hosseusii
longicalyx
longiflorus
micranthus
sp. MSBG87-162
- sp. (like slender *A. longicalyx*)
- sp. (yellow) (Philippines)
- hybrid, lg orange/red

Alloplectus
- *bolivianus* JLC6103 (M)

bolivianus USBRG95-140 (M)
- *hispidus* JLC5625
- *ichthyoderma* JLC5626
- *martinianus* JLC6043
- *tenuis* JLC6124

tetragonoides GRF98153
sp. aff. *schultzii* GRF97103
sp. aff. *panamensis* GRF9781 (orange)
- sp. aff. *teuscheri* JLC6119

sp. GRF9521 (salmon calyx)
sp. GRF9556 (green calyx)
sp. GRF9788 (pinkish/yellow above)
sp. GRF97166
sp. GRF98151 (yellow)
sp. USBRG98-030

Alsobia (B)
dianthiflora

Anodiscus
xanthophyllus (M)
xanthophyllus (Ecuador) GRF97109

Besleria
barbata USBRG98-052
cf. *divaricata* JLC5629
laxiflora GRF9675 (M)
melancholica (MT)
sp. GRF9783 (orange w/yellow base)
sp. GRF97108 (orange)
sp. GRF97141 (orange)
sp. GRF9853 (yellow)
sp. GRF98139 (orange)
- sp. JLC5705
- sp. JLC6113

Briggsia (A,R)
- *aurantiaca*

muscicola
- *speciosa*

Chirita
caliginosa (LM)
flavimaculata USBRG94-085 (R)
involucrata (F,L)
lavandulacea (LM)
micromusa (F,L)
- *pumila* (F,L)
- *pumila* USBRG2000-18 (F,LM)

tamiana USBRG98-080 (F,R,P)
- sp. (Thailand)
- *caliginosa* × *sericea* (LM)

Chrysothemis (F,LM)
friedrichsthaliana
- *pulchella* (Ecuador)

villosa
- *pulchella* hybrid mix

hybrid mix

Codonanthe (B)
carnosa
corniculata
crassifolia
crassifolia GRF9869
crassifolia 'Cranberry'
digna
digna 'Moonlight'
erubescens
gracilis
paula

Columnea (B)
crassifolia
erythrophaea
glicensteinii
hirta
hirta GRF9493
- *inaequilatera* JLC6072

maculata
nicaraguensis CR92F16
nicaraguensis GRF94105
oxyphylla
proctori W3573
schiedeana
sulfurea G3770
hybrids (orange)
- hybrids (red)

Corytoplectus
capitatus (LM)
capitatus G291
cutucuensis (L)
cutucuensis GRF9794
riceanus GRF9654 (M)

Cyrtandra
cupulata (G,H,MT)

Dalbergaria (M)
asteroloma GRF97169 (white)
- *mastersonii* (M)

medicinalis GRF9507
ornata GRF2665
polyantha
sanguinea
sanguinea 'Orange King' GRF9492
sp. GRF97160

Diastema (D,F,P)
vexans
Didissandra
- *frutescens* (H,M)

Drymonia
affinis GRF98109
coccinea GRF9873
conchocalyx 'Silver Lance' × self (M)
doratostyla GRF9674 (B)
- cf. *ecuadorensis* JLC6185

ecuadorensis 'Red Elegance' (LM)
macrophylla (M)
mortoniana (L)
pulchra GRF98113
serrulata (B)
serrulata GRF9752
strigosa (B)
strigosa GRF1912
sp. nov. (*umecta* ined.) (B)
Episcia (H,L,B,F)
- *cupreata* hybrids × 'Suomi'

cupreata hybrids mix
- *xantha*
- hybrid mix

Eucodonia (D,F,P)
hybrid mix
Gesneria (H,F,L)
- *cuneifolia*
- *cuneifolia* WEK96151
- *cuneifolia* WEK96152
- *cuneifolia* WEK96155
- *cuneifolia* WEK96157
- *cuneifolia* WEK96158
- *cuneifolia* 'Esperanza'
- *cuneifolia* 'Quebradillas'

pedunculosa USBRG97-102 (S,T)
pumila
- *reticulata*

ventricosa (M)
'Flashdance'
- mixed species and hybrids

Gloxinia (D)
gymnostoma (LM)
lindeniana (F,L)
perennis (LM)
perennis 'Insignis' (L)
racemosa (L)
sylvatica (F,L)
sylvatica GRF9943 (Brazil)
sylvatica USBRG96-002 (Bolivia)
Haberlea (A,R)
rhodopensis
Hemiboea (D)
subcapitata (L)
Henckelia
- *incana*

Heppiella (D)
ulmifolia GRF98172
Kohleria (D)
hirsuta
spicata (M)
- hybrid mix

Lysionotus (LM)
pauciflorus var. *pauciflorus*
Monophyllaea (H,LM)
horsfieldii
Monopyle
macrocarpa GRF94123
Moussonia
deppeana (M)
- *elegans* (M)
- *elegans* GRF9407

Napeanthus (H)
costaricensis (F,P)
Negria
- *rhabdothamnoides* (T)

Nematanthus
australis (B)
corticola (B)
fissus GRF9938
fluminensis (B)
strigillosus AC1434 (B)
wettsteinii (B)
sp. 'Santa Teresa' (B)
Ornithoboea
wildeana (LM)
Paliavana (S,T)
prasinata
prasinata GRF732
prasinata GRF91126
- *plumerioides* (Cabral)

tenuiflora
werdermannii AC2310
Paradrymonia
decurrens (L)
- sp. JLC5731 (F,P)

Pearcea (Parakohleria)
sp. GRF9780 (yellow)
Pentadenia
angustata (B)
byrsina (B,L)
crassicaulis (B)
microsepala GRF1837 (B)
orientandina (LM)
rileyi GRF86243 (LM)
spathulata GRF9503 (LM)
strigosa GRF95154 (B)
zapotalana (B)
Phinaea (D,F,P)
divaricata
multiflora 'Tracery'
Ramonda (A,R)
- *myconi*

myconi —
white
lavender
pink
- clone G

Rhynchoglossum (H,L)
gardneri
Rhytidophyllum (G,H,S,T)
auriculatum
tomentosum
villosulum

Saintpaulia (F,R)
- *ionantha*
- *orbicularis*

Sinningia (D)
aggregata (M)
aghensis (T)
allagophylla (MT)
allagophylla GRF9922
allagophylla GRF9929
allagophylla GRF9968
allagophylla (yellow)
- *amambayensis* (L)
- *araneosa* (F,L)

brasiliensis (M)
brasiliensis 'Verde'
brasiliensis AC1314
bulbosa (T)
calcaria MP891 (F,L)
carangolensis (M)
cardinalis (F,LM)
cardinalis (compact) (F,L)
cardinalis (dark calyx) (LM)
- *cardinalis* (orange)

cardinalis (pink)
cardinalis 'Innocent'
conspicua (F,L)
cooperi (LM)
curtiflora (T)
curtiflora GRF9927
douglasii GRF91188 (LM)
douglasii GRF9936 (LM)
douglasii (pink form) (M)
elatior AC1409 (M)
elatior GRF9963
- *eumorpha*/Saltao (L)

eumorpha (lavender) (F,L)
eumorpha (pink)
eumorpha (white)
glazioviana (L)
- *guttata* (LM)

hatschbachii (L)
iarae (F,L)
- *incarnata* (S,MT)

insularis (LM)
leopoldii (F,L)
leucotricha (F,L)
lineata (LM)
lineata GRF9920 (LM)
lineata (highly spotted)
macropoda (M)
macrostachya (LM)
magnifica GRF91121 (pink) (LM)
magnifica GRF91134 (red)
magnifica MP627 (pink)
mauroana (LM)
mauroana GRF9964
micans MP892 (LM)
nivalis AC1460 (L)
piresiana (L)
- *pusilla* (F,P)
- *pusilla* 'White Sprite' (F,P)

reitzii (M)
reitzii GRF9914 (magenta)
sceptrum (T)
sceptrum AC2406 (T)
sellovii (MT)
sellovii GRF9919
sellovii 'Bolivia' USBRG96-003
- *sellovii* 'Purple Rain'
- *speciosa* 'Lavender Queen'

speciosa AC1652
- *speciosa* AC1503

sulcata (LM)
tubiflora (S,MT)
warmingii (T)
warmingii GRF9921
- sp. aff. *aggregata* (yellow) (M)
- sp. aff. *reitzii* 'Black Hill' (M)

sp. aff. *warmingii* from Ilhabela MP631
- sp. "Esmeril" (L)
- sp. "Rio das Pedras" MP1094 (F, P)
- sp. "Rio das Pedras" dark (F, P)
- sp. "Waechter" (LM)

cardinalis 'Innocent' × *iarae* (LM)
- *cardinalis* hybrid (peloric)
- hybrid red peloric

eumorpha hybrids mix (F,R)
- "Hummingbird Mix"

'Anne Crowley' (F,L)
- 'Apricot Bouquet' seedling × 'Apricot Bouquet' (LM)
- 'Apricot Bouquet' × self (LM)

('Apricot Bouquet' × self) × self (LM)
('Apricot Bouquet' × self) × *S. conspicua* (F, L)
('Apricot Bouquet' × self) × (*S. conspicua* × *S. eumorpha*) (F, L)
('Apricot Bouquet' × self) × *S.* sp. 'Regina' (F, L)
- ('Apricot Bouquet' × self) × *S.* 'California Minis' (red) (F, LM)
- 'April Starr' × self (F,P)
- 'Bewitched' × self (F,L)
- 'Delta Fox' × self (F,P)

'Diego' (red) (F,L)
'Diego' (pink)
- 'Dollbaby' (F,P)
- 'Good Pink' × self (F,L)
- 'Jubilee' × self (F,L)
- 'Krezdorn Yellow' × self (L)
- 'Little Imp' (F,P)

'Maiden's Blush' × self (F,P)
- 'Mother of Pearl' × self (F,P)

'Mothers Day' × self (F,L)
'Pale Beauty' × self (L)
- 'Pink Ice' (F,P)
- Premier Pink' × self (F,P)

'Pure Pink' × self (F,P)
- 'Purple Crest' × self (F,P)
- 'Ruby Red' × self (F,P)
- 'Scarlet Sunset' (F,P)
- 'Tampa Bay Beauty' × self (L)
- 'Ted Bona' × self (F, P)

• 'Whimsey' × self (F,P)
• 'Angora Love' × 'Margaret' (L)
• 'Georgia Sunset' hybrid mix
hybrid miniature mix (F,P)
• pink hybrid miniature mix (F,P)
• lavender/purple miniature mix (F, P)

***Sinningia speciosa* hybrids** (F,R)
blue mix
mini dark pink
lavender
pink
• purple
red
rose
white
orchid/purple mix
pink mix
pink/white mix
• purple peloric
purple w/spots
red mix
red w/spots
white w/red spots
• 'California Minis'
Charles Lawn hybrid mix
• Early Giant mix
• Jack Evans purple mix
• Jack Evans red mix
hybrid mix
blue slipper
lavender slipper
pink slipper
red slipper
• purple slipper
mixed slipper
pink dwarf
• AC1503 × *speciosa* 'Regina'
• Small's dwarf mix

Smithiantha (D)
• *canarina* GRF9105 (F,LM)
• *laui* GRF9117 (F,L)
• *multiflora* GRF9121 (F,LM)
• *multiflora* GRF9122 (F,LM)
• *zebrina* GRF9104 (M)
• 'Little One' (F,L)
• hybrid mix (F,L,M)

Streptocarpus
baudertii (F,R)
buchananii (B)
candidus (F,R)
confusus (U)
• *confusus* ssp. *confusus*/Swaziland
cooksonii (dark purple)
cooperi (U)
cyanandrus (F,P)
• *cyaneus* (blue) (R)
• *cyaneus* (blue/long corolla)
• *cyaneus* (lilac)
daviesii (F,U)
denticulatus (U)
• *dunnii* (U)
eylesii (U)
fanniniae (R)
fasciatus (R)
fasciatus/Krokodilpoort, E. Transvaal (R)
floribundus (R)
formosus (R)
formosus/E. Cape, Transkei
• *galpinii*
gardenii (F,L)
goetzei (U)
grandis (U)
grandis (blue form)
haygarthii (F,U)
• *haygarthii*/Inchanga, Kwazulu
haygarthii/Mkambati, Transkei
holstii (B,L)
johannis (F,R)
johannis/Komga, E. Cape
johannis/Weza, S. Natal (R)
sp. aff. *johannis* (F,R)
• *kentaniensis* (N. Kei River)
kirkii (F,L)
• *meyeri*/SE Transvaal (R)
meyeri/NE Cape Province
modestus (R)
• *modestus*/Magwa Falls, Transkei (R)
muscosus (L)
nobilis (M)
pallidiflorus (F,LM)
parviflorus (R)
parviflorus (mauve)
• *parviflorus* (white) (R)
parviflorus (white/mauve)
• *parviflorus* ssp. *parviflorus*/Limpopo Province
pentherianus (F,L)
polyanthus (F,L)
polyanthus subsp. *comptonii*
polyanthus subsp. *polyanthus*
polyanthus subsp. *polyanthus* /lg fl
polyanthus subsp. *polyanthus* /Valley of 1000 Hills, Natal
porphyrostachys (U)
primulifolius (F,R)
primulifolius /Bullolo Rvr, Transkei
primulifolius /Valley of 1000 Hills
prolixus (F,U)
pumilus (F,P)
rexii (F,L,R)
rexii (white)
rexii (pale blue/long corolla)
rexii (white/blue mix)
rimicola (F,P)
roseoalbus (F,R)
saundersii (U)
saxorum (B)
thompsonii (B,L)
trabeculatus (U)
• *vandeleurii* (U)
variabilis (F,R)
wendlandii (U)
wilmsii (U)

wilmsii/Long Tom Pass
• 'Bethan' × self (R)
• 'Bristol's Hot Rod' × self
'Bristol's Popsicle' × self (R)
• 'Cape Beauties' × self (F,P)
• 'Demeter' × self (R)
• 'Falling Stars' × self (R)
• 'Gloria' × self (R)
• 'Kitten Face' × self (R)
• 'Mini Pink Fu' × self (R)
• 'Party Doll' × self (R)
• 'Pegasus' × self (R)
'Royal' (red) (R)
• 'Royal' (white/pink stripes) (R)
• 'Sandra' × self (R)
• 'Thalia' × self (R)
• 'Ulysses' × self (R)
• New Zealand hybrid mix (F,R)
• *rexii* × *S.gardenii*
rexii hybrids (F,R)
• Wiesmoor hybrids (F,R)
hybrid mix (F,R)
hybrid, lt blue/dk blue lines (R)
hybrid, lg burgundy (R)
• hybrid, lg purple (R)
hybrid, lg white (R)

Titanotrichum
oldhamii (propagules)

Tremacron
• *aurantiacum*

Trichantha
ambigua 'El Yunque' WEK96163
citrina (B)
dodsonii (LM)
• *filifera* JLC6500 (B)
purpureovittata (B,L)

Vanhouttea (S,T)
• *brueggeri* (S,T)

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Mixed gesneriads

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* * *

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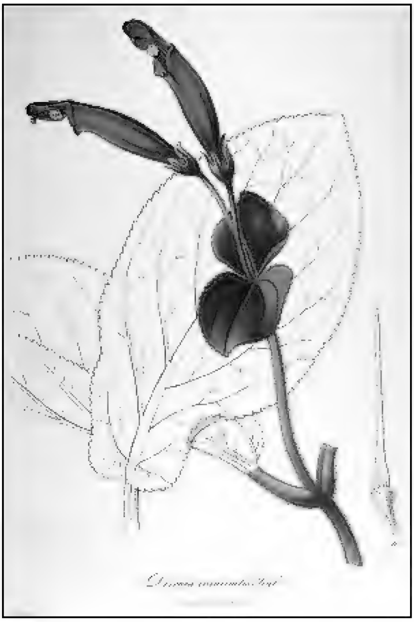


Sinningia cardinalis illustrated in Gartenflora in 1861 as *Dircaea cardinalis*

Classic Gesneriads: *Sinningia cardinalis*

Peter Shalit <ps83@cornell.edu>
Seattle, Washington, USA

Author's note: An earlier version of this article appeared in THE GLOXINIAN, *May/June 1979, vol. 29, no. 3, page 19. That same issue includes the original description of S. cardinalis 'Redcoat' on page 9.*

Because of its long history in cultivation, its contribution to many valuable hybrids, and its several interesting cultivars, *Sinningia cardinalis* certainly qualifies as a "Classic Gesneriad". A beautiful and undemanding species, *S. cardinalis* first arrived from Brazil to grace the conservatories of Europe in the mid-1800's. Its tubular, hooded, bright red flowers, atop a mound of fuzzy apple-green leaves, have made it a perennial favorite among houseplant growers. A wonderful bonus is the plant's attractive, exposed tuber, or "caudex", the source of recent popularity among collectors of caudiciform plants. *Sinningia cardinalis* was originally introduced to cultivation as *Gesneria macrantha*, and even now it can be found in the trade under that long-discarded name.

For much of the 20th century, this species was known as *Rechsteineria cardinalis*. However, the hybridizing work of Carl Clayberg in the 1960's, showed that *Rechsteineria cardinalis* and *Sinningia eumorpha* were completely interfertile and probably shared all but a few genes, despite great differences in their superficial appearance. This finding and other evidence led to a taxonomic revision by Harold Moore in the 1970's, submerging *Rechsteineria* into a new, larger version of the genus *Sinningia*, and creating the name *Sinningia cardinalis* that we use today.

Sinningia cardinalis has been used extensively in hybridizing. A hybridizer's dream, it breeds freely with a large group of related caudiciform *Sinningia* species including *S. eumorpha, S. leucotricha, S. canescens, S. bulbosa, S. macropoda, S. lineata, S. piresiana, S. cooperi, S. magnifica, S. nivalis, S. insularis*, and *S. douglasii.* Via such hybrids, crossed with the more distantly related miniature species *S. pusilla* and *S. concinna*, the genes of *S. cardinalis* have contributed to the gene pool of tetraploid "mini-sins" such as *S.* 'Cherry Chips', *S.* 'Super Orange', and many others.

There are several mutants/variants within the species *Sinningia cardinalis*. An unnamed "compact form", origin unknown, has been available for decades. For home growers this may be preferable to the original, taller-growing collection. A "pink form", also of unknown origin, has been listed in the AGGS Seed Fund for several years as well. In addition, there are several named *S. cardinalis* cultivars, each of which possesses a single mutant gene that gives the flower a different characteristic from the original species.

Sinningia cardinalis 'Innocent' (not "Innocence", as it is often mislabeled) is a form with pure white flowers. It appears to have originated in Denmark and was introduced to cultivation in the USA by the Park Seed Company in whose catalog it was listed for many years. It breeds true from seed. This cultivar lacks any red (anthocyanin) pigment, not only in the flowers, but in the leaf petioles, stems, and tubers. In bloom, it makes an appealing color contrast to accompany the red-flowered form of the species.

Sinningia cardinalis 'George Kalmbacher' is a mutant with red, peloric (radially symmetrical) flowers that lack the hood found in the flowers of the original species. This mutation was discovered in 1968 among seedlings grown at the Brooklyn Botanic Garden in New York. The plant was first described in THE GLOXINIAN in 1968 by George Kalmbacher, taxonomist at the Garden. (See a reprint of this original article starting on page 21.) Seed, which breeds true, was distributed shortly after. The cultivar was named in honor of its discoverer by Carl Clayberg in THE GLOXINIAN in 1969.

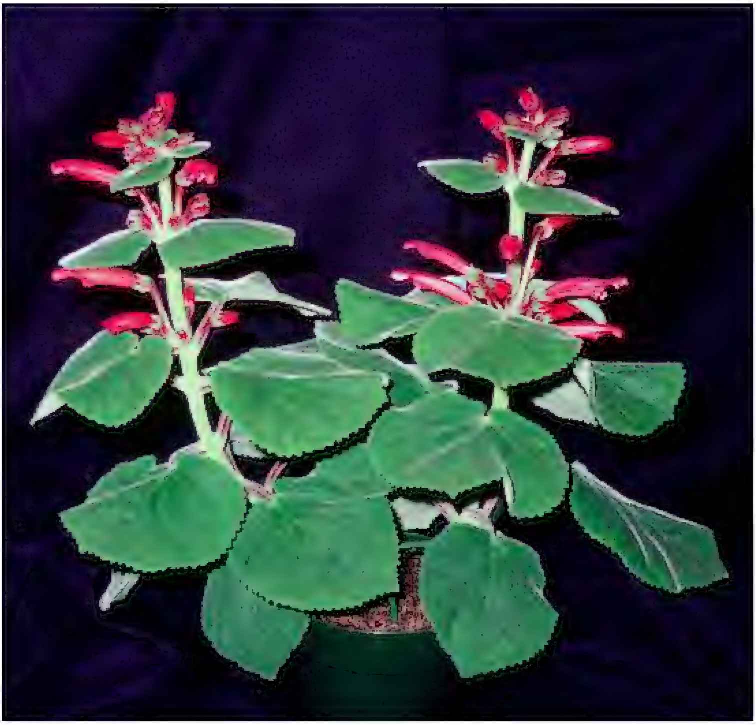
The flowers of *Sinningia cardinalis* 'George Kalmbacher' are arguably less showy and graceful than those of the original species, but its novelty is appealing, and it is useful in hybridizing. It is the source of the peloric trait found in the upfacing flowers of the white form, *S. cardinalis* 'Skydiver' (see below) and of the multicolored flowers of this author's hybrid *S.* 'Bewitched'. *Sinningia cardinalis* 'George Kalmbacher' appears to have been lost in cultivation, but can be re-created by hybridizing *S. cardinalis* 'Skydiver' with the original species. This author plans to undertake this project in the near future.

Sinningia cardinalis 'Skydiver' is an intraspecific hybrid of *S. cardinalis*. This cultivar has white, peloric flowers. The original cross leading to this cultivar involved *S. cardinalis* 'George Kalmbacher' (red, peloric flowers) × *S. cardinalis* 'Innocent' (white, hooded flowers), made in 1973 by Bill Saylor. Bill donated the seed to the AGGS Seed Fund. Carl Clayberg grew up the seed and selected a true-breeding strain with white, peloric flowers which he introduced via the AGGS Seed Fund and named *S. cardinalis* 'Skydiver'. This cross is an example of simple Mendelian inheritance involving the combination of two different recessive mutant genes into one plant.

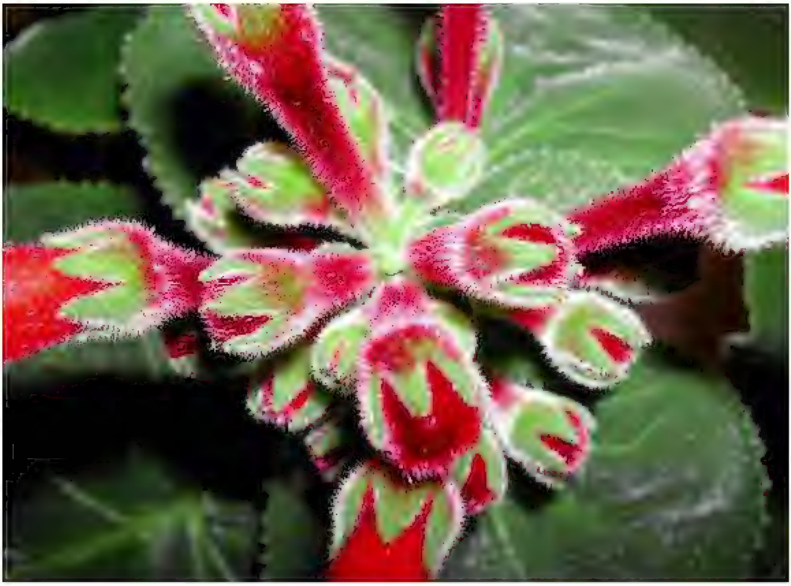
Sinningia cardinalis 'Skydiver' was thought lost to cultivation for many years. However, in 2004 it was "re-discovered" in the collection of an Australian grower. Gesneriad enthusiasts Down Under have provided self-pollinated seed to collectors in the USA, where seedlings are now thriving and blooming. This close call is a reminder that we must take pains to ensure that these important, historic cultivars are not lost forever.

Sinningia cardinalis 'Redcoat' was discovered by members of the Puget Sound Gesneriad Society in 1978. This variant of the species has enlarged, showy, fuzzy red calyces which sheath the corolla. In addition, the female parts of the flower are deformed and non-functional. The plants were originally found for sale in Seattle area grocery stores during the winter holiday season. They were traced to Clackamas Nursery in Oregon, but there the trail ended as this establishment was not forthcoming with further information on the origin of this cultivar.

Sinningia cardinalis 'Redcoat' has not shown up in the mass retail nursery trade again for many years, but it has been maintained in cultivation by gesneriad hobbyists and some commercial gesneriad growers. Unlike other *S. cardinalis* cultivars, 'Redcoat' is unable to produce seed. The pollen is viable, however, and the mutation is dominant; so 50% of the progeny of a cross using *S.* 'Redcoat' pollen have an enlarged, showy corolla. This fascinating (some would say monstrous) trait shows up in such *Sinningia* hybrids as *S.* 'Gabriel's Horn' and *S.* 'Playful Porpoise'.



Sinningia cardinalis
grown by Marie Burns (photo from AGGS archives)



Sinningia cardinalis (compact)
(grown and photographed by Bill Price)

There is vast, barely tapped potential for hybridizing *S. cardinalis*, its mutants, and related *Sinningia* species. A large array of flower forms and colors and plant habits is possible, all in plants with beautiful foliage and decorative tubers. In the meantime it is always a pleasure to re-visit the original species, in its natural, untouched elegance.

Please read Bill Price's description of how he grows *Sinningia cardinalis,* and its variants, check out all the pictures, and you will be inspired to (re)discover this classic gesneriad for yourself. Seed is available from the AGGS Seed Fund, and plant material is available from gesneriad specialists advertising in THE GLOXINIAN. Enjoy!

Sinningia cardinalis 'Redcoat'
(grown and photographed by Bill Price)

How I Grow *Sinningia cardinalis*

Bill Price <billprice@shaw.ca>
Vancouver, BC, Canada

I have long had a soft spot for growing this interesting species as it was the first larger Sinningia that bloomed for me. I am presently growing several clones: 'Redcoat', 'Innocent', "compact form", and "pink form". All these are distinctive with fuzzy, rich green new foliage that tends to form symmetrical mounds. They are all floriferous with attractive flower buds and large blossoms.

Seed is an easy way to propagate all varieties of *Sinningia cardinalis* (except *S.* 'Redcoat' which does not produce seed). I start the seeds in the same way that I do all gesneriad seeds: sown in a small pot of coarse vermiculite topped with a layer of fine vermiculite. I scatter seeds on the surface, water from below, and place the pot under a dome on a two-tube light shelf. Sinningia seeds tend to germinate quite quickly (about two weeks) under my conditions. I transplant the seedlings into individual pots when they are 1-2 months old, as then they are large enough for me to handle.

In addition to seed, *Sinningia cardinalis* can also be readily propagated from stem cuttings. The best stem cutting is a relatively young sprout, pried from the tuber with a bit of the parent tuber clinging to its base. Let the cutting dry for an hour or so before planting it. Individual leaf cuttings may root, but they often develop "blind" tubers that never re-sprout, so that is not a reliable means of propagating this species. Stem cuttings are much more likely to produce viable tubers.

When a plant of *Sinningia cardinalis* is young, I let its tuber stay underground. Later, I transplant it so that the top of the tuber is on the surface of the growing medium or slightly above. The tubers naturally start to expose themselves (so to speak) as they mature. I tend to under-pot them and only move them up when they outgrow their previous pots. Often the tubers grow so large that they distort the pot shape.

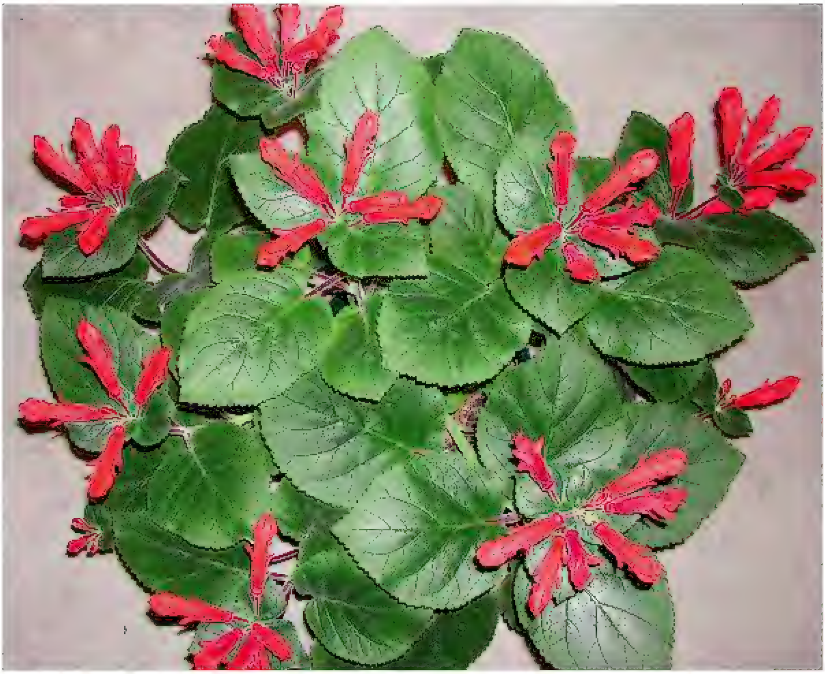
For the first few cycles of growth, stems tend to be floppy and sprawl. Once the tuber has sized up a bit though, the growth habit changes and the plant produces strong upright stems. When this pattern starts, the plant usually is ready to produce its first blooms. It takes 2-3 years from seed to get a blooming-sized tuber – but it's well worth the wait as they keep getting better and better! Although the tuber gets larger with age, the top growth tends to stay moderate in size, in the 12-14" range at most, no matter how old the plant.

Sinningia cardinalis loves my soil mix, which is very porous. I use this mix for most of my gesneriads. It is essentially a mix of 1/3 each perlite, vermiculite and New Zealand sphagnum moss (by volume, reconstituted). Feeding is done weekly with a variety of fertilizers at one-quarter strength.

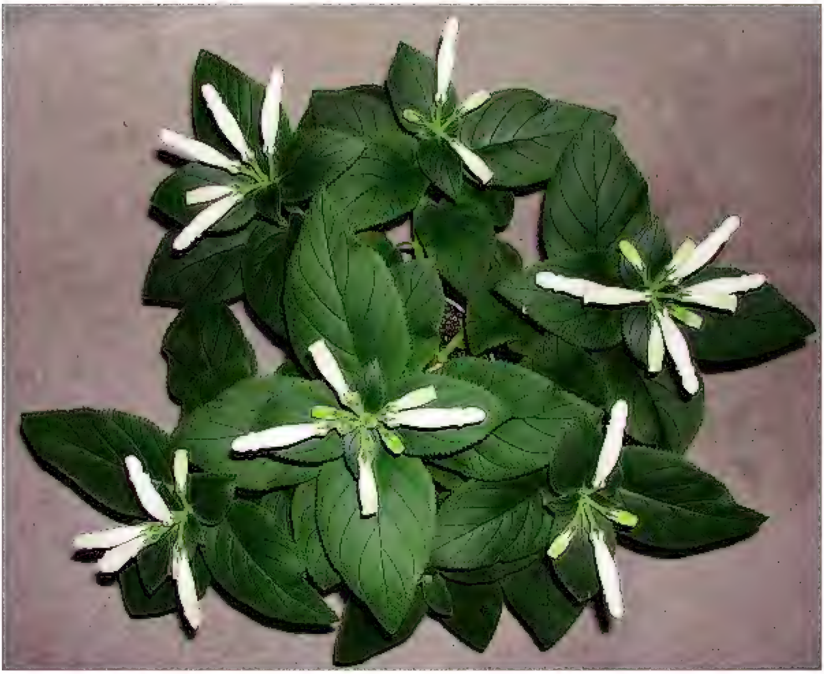
I keep the soil mix moist as long as the stems are alive. I don't remove the old foliage growths until the new ones have sprouted from the tuber surface. Under my conditions, plants of *Sinningia cardinalis* have virtually no dormant period. The tubers usually re-sprout before the old growths have died. If the old growth has stopped blooming, then it can be removed, and the new sprouts allowed to grow. I pry off any extra sprouts, and leave an odd number (1, 3, or 5) to grow on and form a symmetrical plant. Grown this way, the plants produce a minimum of two and often three cycles of blooms each year.

Sinningia cardinalis and its varieties and hybrids definitely prefer high light situations. They are happy under four fluorescent tubes or in bright sunny windows. If plants are being moved from a light shelf to a window, they need to be acclimatized gradually as the leaves may burn if exposed to bright sunlight too quickly. They will also grow and flower, albeit less vigorously, under two tubes. I would suggest that if plants are grown this way, they be placed in the center of the shelf and as close to the lights as possible.

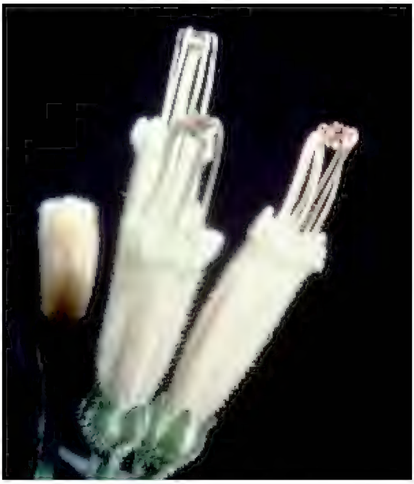
Sinningia cardinalis and its various cultivars are beautiful, free blooming, and easy to grow. At least one should be in the collection of every gesneriad fancier.



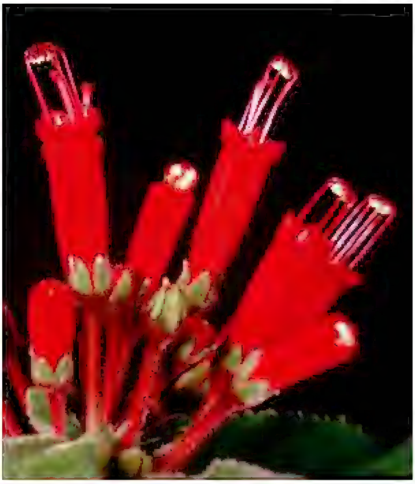
Sinningia cardinalis 'Redcoat'
(grown and photographed by Bill Price)



Sinningia cardinalis 'Innocent'
(grown and photographed by Bill Price)



Sinningia cardinalis
'Skydiver'



Sinningia cardinalis
'George Kalmbacher'

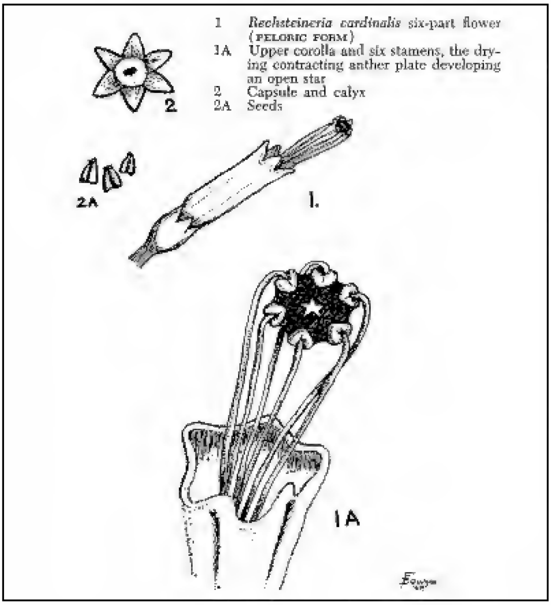
A New *Rechsteineria cardinalis* Type

George Kalmbacher
New York, NY, USA

This is a reprint of an article that appeared in the May/June 1968 issue of THE GLOXINIAN. *Note that Rechsteineria cardinalis is now known as Sinningia cardinalis.*

A plant grown from *Rechsteineria cardinalis* seed at the Brooklyn Botanic Garden is now in its second flowering with only regular, or radial flowers. The normal flower of this species has a bilaterally symmetrical corolla with a strongly hooded upper lip. When a plant that normally produces an irregular or zygomorphic flower instead bears a regular or radially symmetrical one, the regular flower is called a PELORIA. As Dr. Carl Clayberg remarks in personal correspondence, "Occasionally flowers of this type occur on normally zygomorphic flowered plants in both *Rechsteineria* and *Sinningia*". He goes on to state this condition is ephemeral, but to have a stable plant of this in either genus has happened only in the case of the florist's gloxinia previously.

The flowers of this peloria are the same in size and shape as those of normal flowers of *R. cardinalis* except that they completely lack the prominent hooded upper lip of the corolla. In its place there is a corolla margin of six evenly spaced rather short, sharp lobes. The six stamens extend beyond the corolla margin for 5/8 of an inch and, with the anther tips united, tend to resemble a bird cage. The anthers are fertile and produce copious amounts of pollen. The flowers of the peloria look so different from those of the standard *R. cardinalis* that not knowing their origin one would not suspect the two are the same species.



1 *Rechsteineria cardinalis* six-part flower (PELORIC FORM)
1A Upper corolla and six stamens, the drying contracting anther plate developing an open star
2 Capsule and calyx
2A Seeds

In our peloria there occur five-part flowers in addition to the six-part flowers just described. It is interesting to note the parallels Charles Darwin mentions in his *Animals and Plants Under Cultivation.* Besides mentioning the gloxinia as an observed form of peloria, he writes of a peloric form of snapdragon (figwort family) that had six equal stamens instead of the usual four unequal ones. Concerning pelorias in *Galeobdolon luteum* (mint family) he states that the flowers varied greatly as to flower-part numbers with four to six lobes to the corolla, and stamens from three to six.

The extension of flower-part numbers either way in some cases may be even greater. In one case researchers have found in pelorias of foxglove (figwort family) anthers up to eight (in normal flowers four) and corolla segments up to nine.

In foxgloves when a peloric flower of a wholly peloric plant is selfed, all the seedlings have proved peloric. We hope to get seeds from our plant and hope this peloric condition holds true so that it may be perpetuated with no difficulties. Of course, we shall try to propagate vegetatively from the original plant as well.

Our peloria was grown from seed obtained from Jardin Botanique, Ville de Rouen, France, and labeled *Gesneria macrantha* Hort. I did not realize this was a synonym for *Rechsteineria cardinalis.* If I had known, I would not have requested it, but was expecting a new species for the gesneriad collection of the Brooklyn Botanic Garden. That was the first lucky step in this "success story". The second lucky step was that, after finding out what the identity was, a little over thirty immature plants were given away to members of the American Gloxinia and Gesneriad Society and we kept, not knowing, the lucky prize among the two or three we retained.

The original seeds were sown on the 25th of March, 1966, germinated on the 9th of April and were pricked out on the 18th of May that year.

New Streptocarpus species: *Streptocarpus lilliputana*

Dale Martens, <dalemartens@mchsi.com>
Sherrard, Illinois, USA

Streptocarpus lilliputana is a miniature, rosette-shaped species introduced at the AGGS Convention in 2003 as seed donated by Jaco Truter to the GHA seed fund. According to Jaco, "*Streptocarpus lilliputana* was originally collected by Prof. Dirk Bellstedt (from the University of Stellenbosch, South Africa). This new species grows in semi-shade on rocks, in pads of moss, in seepage, which is a very unique habitat type in the genus. My two adult plants flowered fairly early in the season, stopped over December through January, and have now been flowering again, although only individual flowers. The new species has no obvious affinities within the genus. This is a rarity amongst rare species, as Dirk only found a very few plants in a few small colonies. Some of these have subsequently died out due to a prolonged drought in Southern Africa. So every plant in cultivation is a victory for conservation through cultivation!"

I distributed several packets of Jaco's *Streptocarpus lilliputana* × self seed to experienced Streptocarpus growers, but the seeds proved to be difficult to germinate. Only three of us were able to grow plants to maturity. I had three plants and showed one at the 2004 AGGS Convention with an educational label giving background information and a photo of the only flower I got in May 2004. I put another in the AGGS Auction. After the convention ended, I gave away about eight leaves from my show plant. Then I wondered if plants could be propagated from leaves that are only about two inches long and one-quarter inch wide. When I got home, I took leaves from my other plant and propagated them as if they were African violet leaves. There's no way to remove a mid-rib on something so tiny! It turns out that it takes about eight weeks before producing plantlets and then another eight weeks before a plantlet is large enough to remove from the mother leaf.

I have been growing *Streptocarpus lilliputana* indoors, under one set of fluorescent tubes. In my conditions it grows best in higher humidity, but I have several plants now and am experimenting with various growing conditions. It produced a single flower for me that was lavender and white. That flower was two inches long by one inch wide, which is remarkable since the leaves are so small. Because the plant was so young, I did not self it. I put pollen on some hybrids, but no seed was produced. As I write this in April 2005, I have another bud.

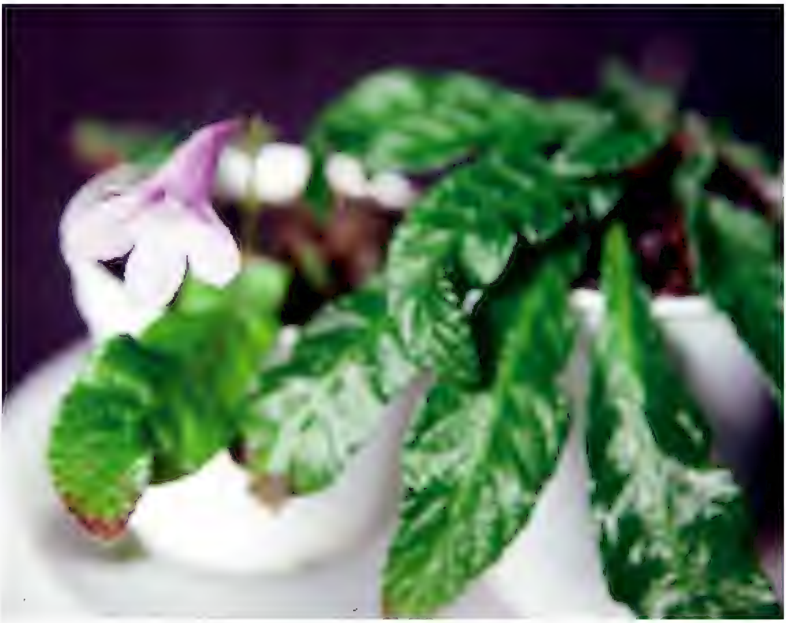
Toshijiro Okuto told me he has two plants grown from Jaco's seed. Each plant is less than 80 mm across. They bloomed last summer in June or July. He hasn't selfed them. Toshijiro grows *Streptocarpus lilliputana* in the same conditions as other species and hybrids and doesn't think they require any special conditions for now. He is hoping to cross them to create small hybrids this year.

Karyn Cichocki told me she has two plants growing in her basement in the sphagnum moss pellet soilless mix (one part each of reconstituted moss, coarse perlite and vermiculite). They are growing off to the side of a two-tube light stand one foot away from the tubes. The temperature ranges from

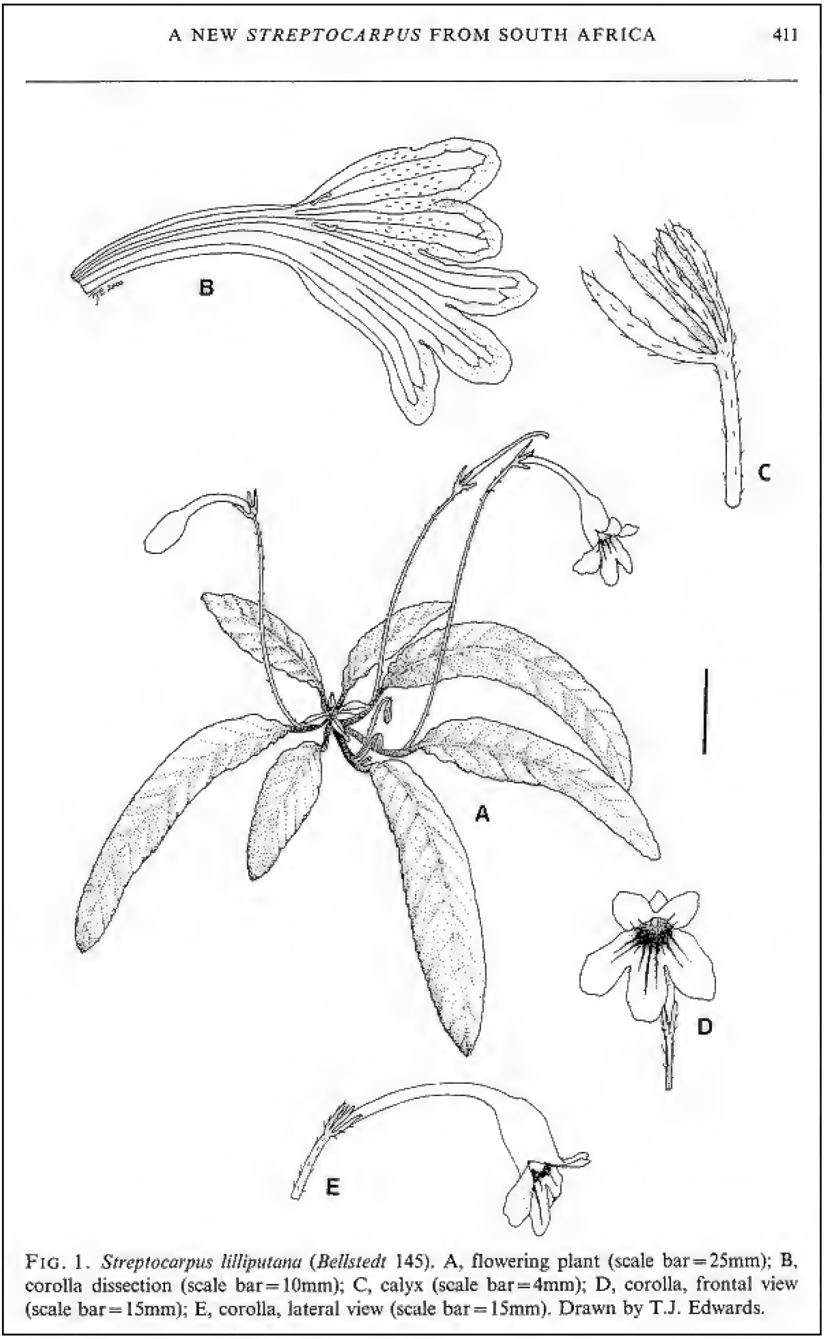
57°F to 70-75°F. Karyn is not growing them enclosed and her humidity level is around 50%. She uses MiracleGro Tomato Fertilizer (1/3 teaspoon to one gallon of water) on all her plants. She, too, only had a single flower just before the 2004 AGGS Convention.

Jaco successfully crossed *Streptocarpus lilliputana* and *S. caeruleus* (a very rare, small rosulate from Limpopo Province that has caerulean-blue flowers and two yellow flashes in the corolla throat). He said, "I planted the seed in autumn 2004, and the small plants are very advanced already, with believe it or not, that faint, almost-yellow type of variegation, and the beginning of buds! So, now it's only a matter of time; I cannot wait!" You can be sure I'll ask him for an update to print in GHA's *CrossWords* newsletter. Jaco's selfed seedlings of *S. lilliputana* only took one growing season to reach maturity, and are now currently flowering along with the original two adults.

Noting its formal publication, Ron Myhr wrote a letter to the Gesneriphile list quoting Dirk Bellstedt who is a frequent contributor to the Gesneriad Reference Web: "The new species that I discovered on the Transkei coast in 2000 has now been officially described as *Streptocarpus lilliputana*, so you can now officially release the new name. It is described in the Bill Burtt 90th birthday Festschrift issue of the Edinburgh Journal of Botany. I had the pleasure of meeting him and Olive Hilliard in Edinburgh whilst attending a Gesneriad Workshop at the Royal Botanic Gardens at Edinburgh in September 2002, so it has been very nice for me to have the new description published in such an appropriate publication. That paper, entitled "A New Species of *Streptocarpus* (Gesneriaceae) from the Pondoland coast, South Africa", by D. U. Bellstedt and T. J. Edwards, appeared in the Edinburgh J. Bot. 60: 409-414, 2004.



Streptocarpus lilliputana
(grown and photographed by Dale Martens)



A NEW *STREPTOCARPUS* FROM SOUTH AFRICA 411

FIG. 1. *Streptocarpus lilliputana* (*Bellstedt* 145). A, flowering plant (scale bar = 25mm); B, corolla dissection (scale bar = 10mm); C, calyx (scale bar = 4mm); D, corolla, frontal view (scale bar = 15mm); E, corolla, lateral view (scale bar = 15mm). Drawn by T.J. Edwards.

Illustration from Edinburgh Journal of Botany, Vol. 60, No. 3 (2004),
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Botanical Review Committee, Report #29

Compiled by John Boggan <jkb25@cornell.edu>
Smithsonian Institution, Washington, DC, USA

For a complete listing of publications on Gesneriaceae, including these and other more recent references, please refer to the Smithsonian's online "Annotated Bibliography of Gesneriaceae" at <http://persoon.si.edu/gesneriad>.

Burtt, B.L. 2002. New Gesneriaceae: a *Chirita* from Vietnam and a *Monophyllaea* from Sulawesi. *Gardens' Bulletin Singapore* 54: 239-242. Two new species are described. *Chirita bogneriana*, from Vietnam, is a member of section *Gibbosaccus* and has white flowers. It is named for Josef Bogner, who sent live plants to Edinburgh. *Monophyllaea chinii* is found on the island of Sulawesi, Indonesia. It is named for Dr. S.C. Chin, who collected the type specimen in 1986.

Hilliard, O.M. & B.L. Burtt. 2002. The genus *Agalmyla* (Gesneriaceae - Cyrtandroideae). *Edinburgh Journal of Botany* 59: 1-210. Abstract: "*Agalmyla* Blume (including *Dichrotrichum* de Vriese and *Tetradema* Schltr.) (Gesneriaceae-Cyrtandroideae) is revised. Ninety-seven species are recognized, 62 of them newly described, and these are divided into three sections with distinct geographical ranges. Sect. *Agalmyla* (24 species) is restricted to the Malay Peninsula, Sumatra, Java, Borneo and Palawan; sect. *Exannularia* (19 species) is the only section on Sulawesi and has a few species nearby; sect. *Dichrotrichum* (54 species) is represented in the Philippine Islands (excluding Palawan) by 13 species, in the Moluccas by two species, and in New Guinea by 39 species. No species is found in more than one of these areas and the key to sect. *Dichrotrichum* is therefore split between the Philippine species and those on the Moluccas and New Guinea. There are thus four keys altogether. The affinity and geographical distribution, both of the whole genus and of the sections, are discussed, and special attention is given to distribution of species in relation to the geological terranes of New Guinea. Points of interest and taxonomic importance in the morphological features are noted in a separate section." Illustrated.

Hilliard, O.M. & B.L. Burtt. 2002. A new species of *Agalmyla* (Gesneriaceae) from Sulawesi. *Edinburgh Journal of Botany* 59: 323-324. "This amendment to our recent paper on *Agalmyla* (Hilliard & Burtt, 2002) results from the discovery in the Leiden Herbarium in October 2001 of Hoffman's specimen, here designated as the holotype of *A. torajiana*, which is clearly referable to our unnamed species 30 (op. cit. p. 81)."

Kiew, R. 2002. A new species of *Monophyllaea* (Gesneriaceae) from Borneo. *Gardens' Bulletin Singapore* 54: 243-246. The new species *Monophyllaea burttiana* is only the second known member of the genus from Sabah, Malaysia. The species is known from a single population and is named in honor of B.L. Burtt.

ii EDINBURGH JOURNAL OF BOTANY

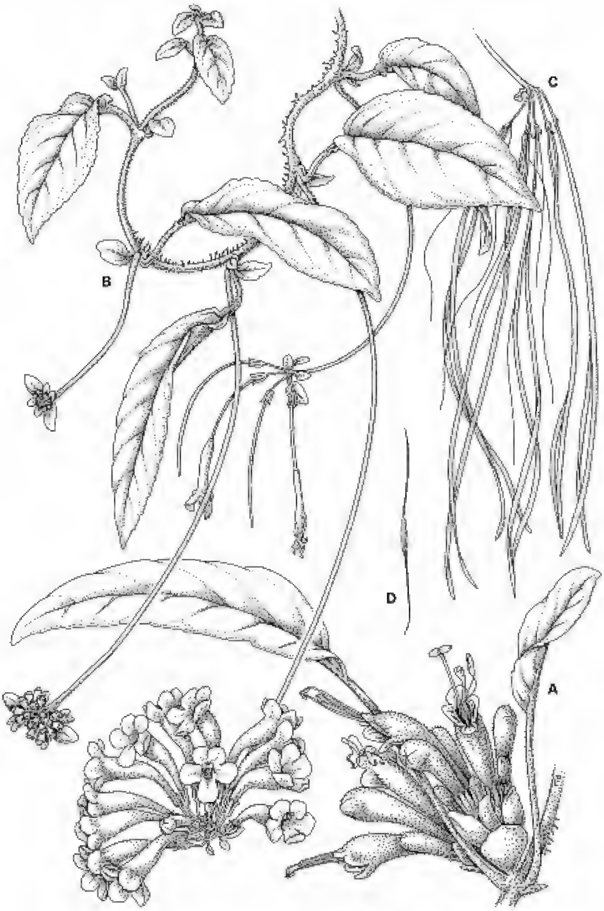


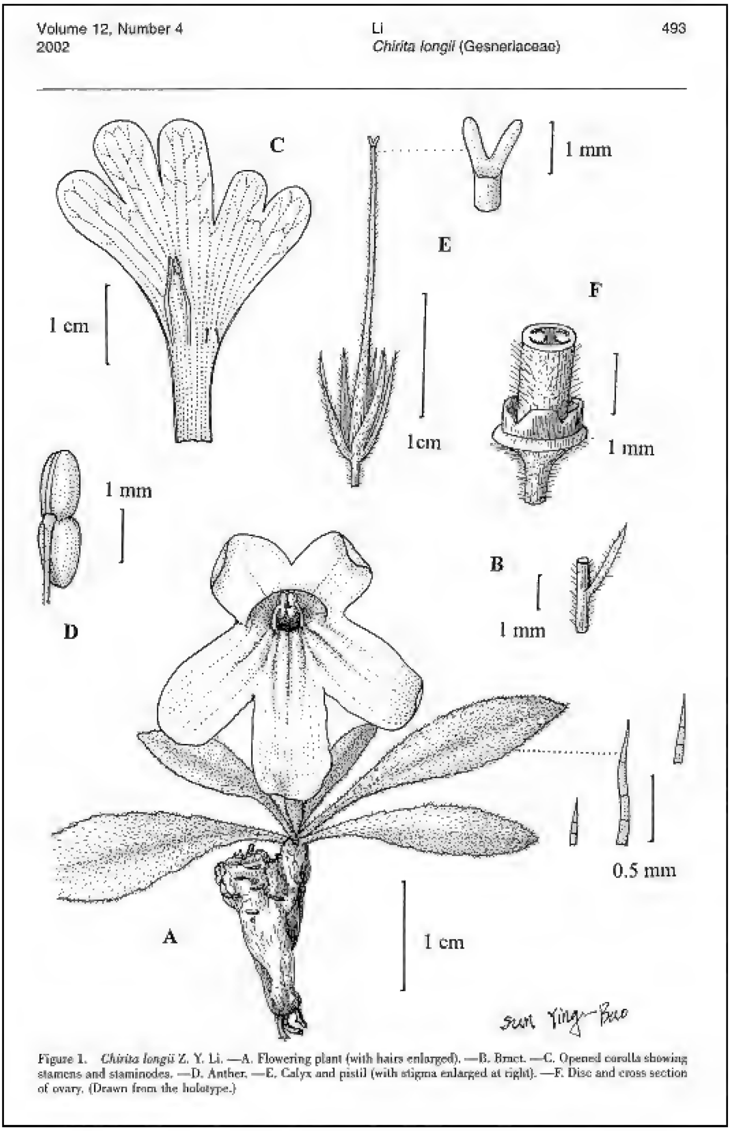
FIG. 1. A, *Agalmyla pseudoborneensis* (×⅔); B, *A. chorisepala* (×½); C, dehisced capsule (×½); D, seed (×6).

Illustration from Edinburgh Journal of Botany, Vol. 59 (2002)

Lu Yuan-Xue, Sun Xian-Feng, Zhou Qi-Xing, & Gu Zhi-Jian. 2002. Chromosome numbers in ten species of Gesneriaceae from Yunnan. *Acta Botanica Yunnanica* 24(3): 377-382. Abstract: "In the present paper, the chromosome numbers of ten species of Gesneriaceae from Yunnan, China are reported for the first time. The results are formulated as follows: in *Aeschynanthus bracteatus*, a population of *A. buxifolius, Hemiboea cavaleriei, Lysionotus pauciflorus* and *Petrocosmea barbata*, 2n=32; in *Chirita dielsii, Ch. macrophylla, Ch. speciosa,* 2n=18; in *Oreocharis aurea*, 2n=34; in *Corallodiscus flabellatus,* 2n=40; a tetraploidy chromosome number (2n=64) was also found in another population of *A. buxifolius*." Illustrated.

Lu Yuan-Xue & Li Xi-Wen (Li Hsi-Wen). 2002. A new species of *Lysionotus* (Gesneriaceae) from Yunnan. *Acta Botanica Yunnanica* 24: 23-24. The new species *Lysionotus sulphureoides*, named for its yellow flowers, is described from Yunnan, China. Illustrated.

Li Zhen-Yu 2002. A new species of *Chirita* (Gesneriaceae) from Guangxi, China. *Novon* 12: 492-494 . The new species *Chirita longii* is described from northern Guangxi, China.



Volume 12, Number 4
2002

Li
Chirita longii (Gesneriaceae)

493

Figure 1. *Chirita longii* Z. Y. Li. —A. Flowering plant (with hairs enlarged). —B. Bract. —C. Opened corolla showing stamens and staminodes. —D. Anther. —E. Calyx and pistil (with stigma enlarged at right). —F. Disc and cross section of ovary. (Drawn from the holotype.)

Illustration of *Chirita longii* from Novon, Vol. 12 (2002)

Submitting Photos for Publication in THE GLOXINIAN

Julie Mavity-Hudson <Julie.Mavity-Hudson@vanderbilt.edu>
AGGS Photography Chairperson, Joelton, Tennessee, USA

There are a number of ways you can submit photos for publication in THE GLOXINIAN. In the "good old days", all photos were submitted as prints or as slides. This is still a good, perfectly acceptable way to submit your photos. Photos should be well focused and composed, with the plant well framed. The point that you are trying to make with the photo should be clearly illustrated, whether you are showing a small portion of the plant or the whole thing. The background should not be cluttered, especially with bright, distracting objects.

With slides, color is usually quite representative. This is because, with the slide, the film itself is the final. With a print, there is a second step involved: that is, making the print, which requires the judgment of either a machine or a person, neither of whom has ever actually seen your plant. It is impossible to tell when looking at a negative what the accurate color of the flower should be, and under different lighting circumstances the color will be recorded differently on the negative. Doing the color correcting requires experience and skill, but also requires that the printer knows what he or she is aiming for. It is probably best to use slide film if you are taking pictures specifically for publication. When shooting with print film, you can help the lab technicians by taking a picture of something they would be familiar with, like a person, earlier in the roll under the same lighting situation. Also keep in mind that if the color is not right, you can ask to have the picture reprinted, and in most places you will not be charged for this service.

Now that digital photography has become more common, we have another option for submission of photos for publication. All the same rules apply to digital photos as well, including focus and composition. Digital has its own problems in addition to those it shares with film. One of these problems is color balance. Because most monitors are not calibrated, the colors are not always what you see. Other than monitor calibration, there isn't a lot you can do about this problem. It is usually not too big an issue because, unlike film, digital cameras do a white balance when taking each picture. Unless you are having trouble with the white balance on your camera, it should not be a great problem. In general, if it looks about right on your monitor and you check it on at least one other monitor, you will probably get away with it – at least in my experience. The main problem I have seen is with violet-colored flowers that come out cyan (sky blue) in many digital cameras as they often do on slide film. This can be adjusted in Photoshop. Anyone who has this problem and can't resolve it, feel free to contact me and I will try to help you.

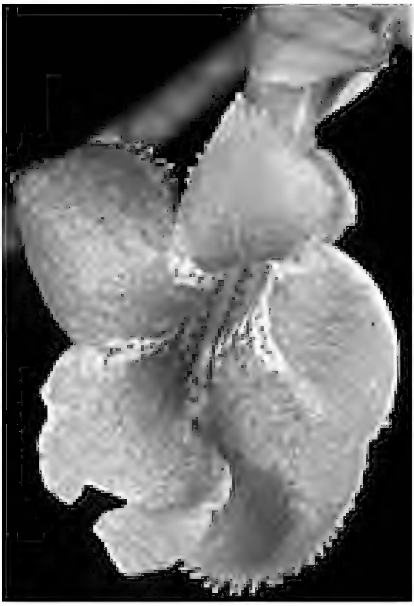
Probably the most serious issue is resolution. Many people get confused about resolution. Resolution is expressed in ppi (pixels per inch). The best resolution to use for printing photos is 300 ppi. This means that if you have a print that you want to be printed in TG at 3 inches across then there will be 900 total pixels across the top. (Don't get confused, this is not the same as the dpi which your inkjet printer states that it can print. Regardless of what dpi your inkjet is rated for, you still need to have your photo at 300 ppi in order to print it. Each pixel will be formed by several dots of ink.) Higher resolution is not better, and can even make the image look worse when printed.

When using a digital camera to produce an image for TG, it's usually best to start by taking the image at the highest resolution that your camera will allow. This gives you a lot more flexibility. You can reduce resolution to a size that can be emailed quite easily, but increasing true resolution is not possible. Although you can interpolate to a higher resolution, it just isn't the real thing.

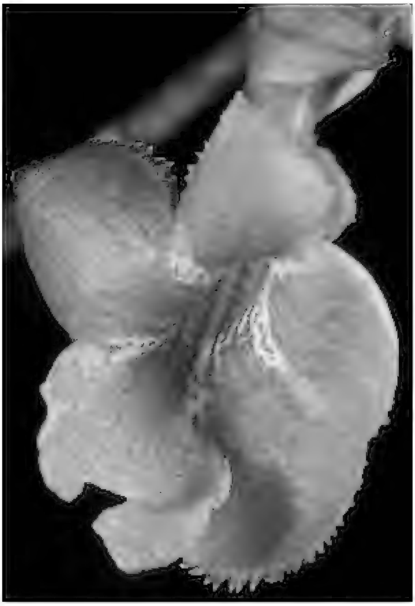
In order to prepare a picture to submit, open it in your image-managing software. There will be a place in your software (in Photoshop it is Image/Image Size) to manipulate the resolution. (When in doubt, dig the directions out of the wastebasket or use the "help" files.) You will want to set the size in inches (or cm) to the final print size, for example, 3 inches. Then change the ppi to 300. Be sure that "resample image" or a similar box is checked so that the final size is 3 inches at 300 ppi. You are now ready to save your file with a new name. First save it in the native file type of the program you are using (in Photoshop this will be a psd file), then save it a second time as a jpg. You will now have 3 files: your original unchanged file, the renamed jpg and the native file-type of your software. When saving the jpg, the software should ask you about compression – set it to the least compression. In Photoshop this will be 12. Other programs may start at the other end and you might need to set it to 1. (When in doubt, check what the file size is after saving, before you close your file so you can do it over if you were wrong – the least compression will create the largest file.) If you decide you should have changed something in the photograph after you close the file, don't open your renamed jpg; open either the original file or the file you saved in the native format of your software and start from there. Every time you open a jpg and then re-save it, more pixels are thrown away because jpg is a compressed format. After a few times of opening and saving, you end up with a seriously compromised file.

In this example you can see the results of too low a resolution as opposed to correct resolution. The left image was set to 3 inches at 72 ppi, and the right image to 3 inches at 300 ppi. You can see that the left image is pixilated and is not acceptable for publication, while the right is smooth and just looks like a photograph. The jpg file size of the first one is only about 70 kb while the other one is about 600 kb (0.6MB). Of course this will depend on how detailed the picture is, but since 3 inches is fairly small, the file size should not be too large. This can then be saved on a CD and mailed, or the file can be emailed to the Editor after contacting her to be sure she's prepared to accept it. If your image will be used at a larger size, you will need to save it at that size at 300 ppi, and your file size will be proportionally larger, but will probably still be e-mailable.

Good luck with your images!



Pixilated image of *Drymonia* 'First Peach' submitted at a low resolution



Sharp image of *Drymonia* 'First Peach' submitted at correct resolution

The Shopping Mall

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Color Photo Sponsorships

- Photo on page 24 sponsored by the Greater New York Chapter in lieu of speakers fees for Jinnie Elbert, Allison Lovell, Michael Riley, and Wallace Wells

Sharing

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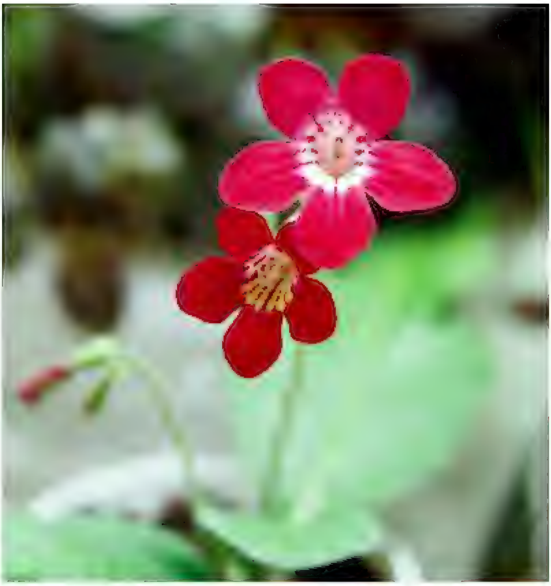
Did you see the variegated *Streptocarpus candidus* at the live auction during the 2004 AGGS Convention? The reason it was available at all was because three people shared plant material with each other. Toshijiro Okuto is the originator of this gorgeous mutant. He shared leaves and I was the recipient of one of the leaves. When I got plantlets, I shared several with friends, including Al Wojcik who grows all things variegated. A heat wave destroyed the original plant in Japan. I lost mine when my young plant became too white. I desperately contacted Al and learned his plant was happily growing. Al offered to propagate leaves for Toshijiro and me. In June of 2004, Al mailed me three good-sized plants: one for Toshijiro, one for myself, and one for the AGGS live auction where it brought enthusiastic bidding!

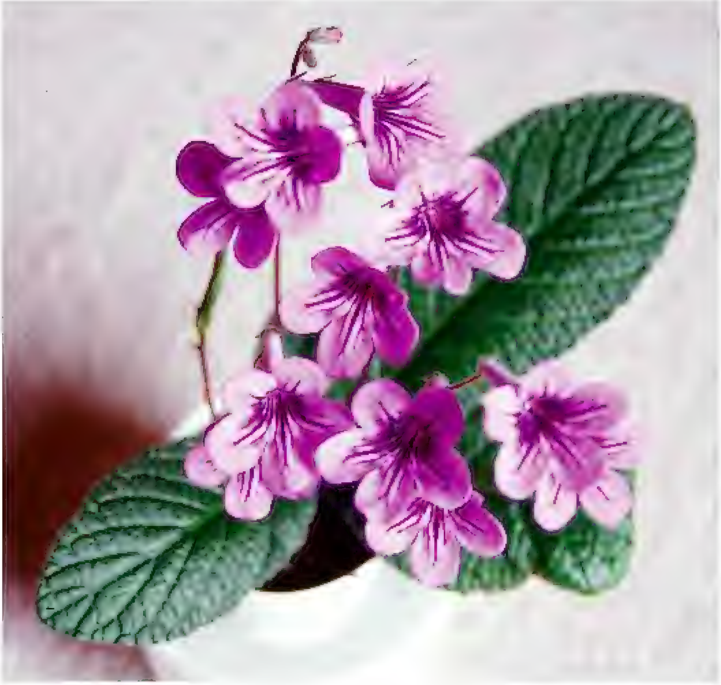
I enjoy sharing plant material from new hybrids. First of all, I want to see how the hybrid does in another environment. Secondly, we all like to grow something new! I shared a young plant of *Streptocarpus* 'Gator's Tail' with Nancy Maybloom who later became the local convention show chairperson for the 1998 AGGS Convention in Chicago. *Streptocarpus* 'Gator's Tail' is a hybrid I created using *S.* 'Pegasus' as a seed parent. The pollen parent is *S. kentaniensis*, and its pollen was given to me by a friend, Ken Fleshman. Nancy surprised me by entering *S.* 'Gator's Tail' in a collection of *Streptocarpus* and she won Best Collection. Then when we saw that *S.* 'Gator's Tail' won Best Streptocarpus, we threw our arms around each other in pure joy! Nancy and Ken have since passed away, but I look at my *S.* 'Gator's Tail' and smile at the friendship and joy I had with each of them.

The sharing of pollen has been a great way to create new hybrids. Sending pollen through the mail is easy. It's best if the anthers are placed on a dark sheet of paper so the recipient can more easily see them. One can store the pollen in the refrigerator; it appears to keep well for at least a couple of months. Helen Bortvedt shared pollen from *Streptocarpus dunnii* with me, and I shared the resulting seeds with many people around the world. Recently I received photos of these *S. dunnii* hybrids, and some flowers are a strong coral color! I encouraged Bob Counsell to name the best of his *S. dunnii* seedlings, and it is now named *Streptocarpus* 'Sommerset Coral Dawn'.

My move from Texas to Illinois to be closer to family during retirement has been wonderful with one exception. The well water eventually caused the demise of about half my collection. Until I begin collecting rainwater or find another solution, I'll be bringing home gallon jugs of city water obtained from relatives living nearby. When I told gesneriad growers of the plants I lost, including some of my precious variegated *Streptocarpus* hybrids, I received many offers to share leaves and plants with me. As far as sharing is concerned, I know this saying is true: "What goes around comes around".



Streptocarpus 'Dale's Scarlet Macaw' hybridized using pollen of *S. dunnii* shared by Helen Bortvedt (grown and photographed by Dale Martens)



Streptocarpus 'Blueberry Butterfly' – one of the seedlings shared by Carolyn Conlin-Lane at the 2001 GHA meeting (grown and photographed by Dale Martens)

Why *Cyrtandra*?

John R. Clark <clarkjr@mail.wsu.edu>
Washington State University, Pullman, WA, USA

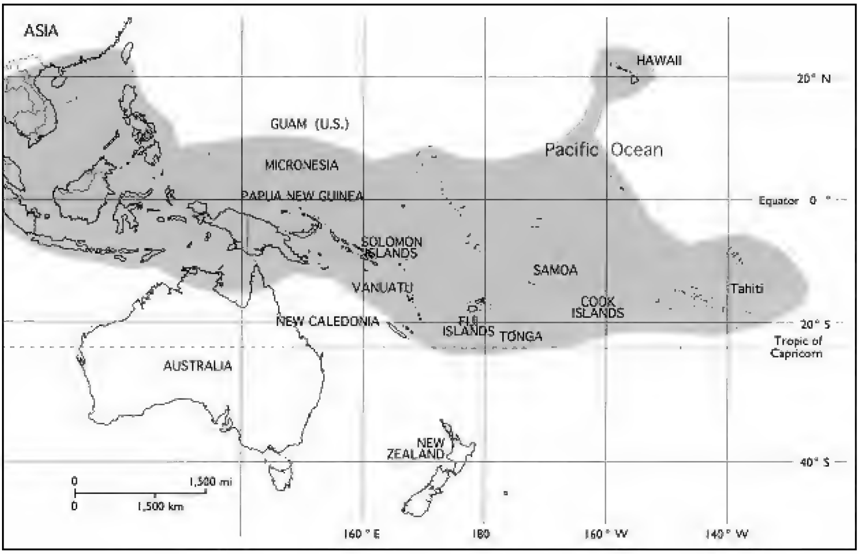
"Why *Cyrtandra*?" Ever since I first started working on this somewhat obscure gesneriad genus, I have been asked this question. "The flowers are all white", some continue, suggesting that this is somehow a dull or boring group. Many growers and gesneriad enthusiasts, familiar with the colorful and showy members of the Gesneriaceae, cannot seem to understand why I would study such a seemingly non-descript group. I will admit that I, too, was a little unimpressed when first introduced to *Cyrtandra*. The more I learn about *Cyrtandra*, however, and the more I travel and explore in search of it, the more I come to love this genus… despite its lack of show-stopping flowers.

Biologically, *Cyrtandra* is rather complex and diverse. The genus has a rich evolutionary history that is unique among gesneriads. Even the discovery of the genus is enthralling being interwoven with the history of westerners charting and exploring our planet. Here I will share with you a bit of this intrigue that I have found in the group. I will also recount how I became involved with *Cyrtandra* in the first place and how studying this group is fulfilling my career goals. By sharing this, I hope to convey why I study *Cyrtandra* and also perhaps spark an interest for the group in other gesneriad enthusiasts.

The Biology

Cyrtandra J.R. & G. Forster is the most diverse Gesneriaceae genus. With over 600 species (some researchers estimate as many as 1000 species), *Cyrtandra* dwarfs all other genera in the family. In fact, *Cyrtandra* species may represent about 25% of all gesneriads known! This genus of herbs, shrubs, lianas and small trees likely evolved in the Indo-Malayan region (Burtt, 2001). Presently, *Cyrtandra* is distributed west to the Nicobar Islands in the Indian Ocean, north to China and Taiwan, as far northeast as Hawai'i, south to Fiji, Samoa, and Tonga, and as far east as Tahiti and the Marquesas Islands. Despite this great geographic range, very few *Cyrtandra* species are widespread. Most species occupy no more than a single archipelago, a single island or even a single valley.

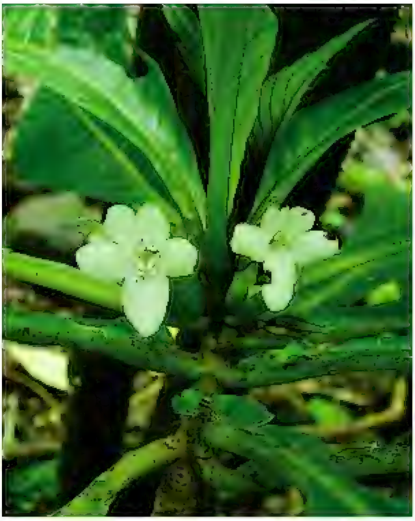
Cyrtandra is unique among all gesneriads in having colonized and speciated among the Pacific islands (Cronk et al. 2005). The major challenge of dispersal, establishment, and proliferation on remote islands poses substantial barriers that other gesneriad taxa have been unable to bridge. *Cyrtandra*'s closest relatives, *Aeschynanthus* (~160 species) and *Didymocarpus* (~180 species), are found as far east as the Solomon Islands, but no further. Nearly half of all *Cyrtandra* species occur east of this limit, raising several intriguing questions. In particular, how did *Cyrtandra* disperse throughout the Pacific? Why is it so diverse? Where did it originate? Answering these and other questions has become my goal as I study this peculiar genus.



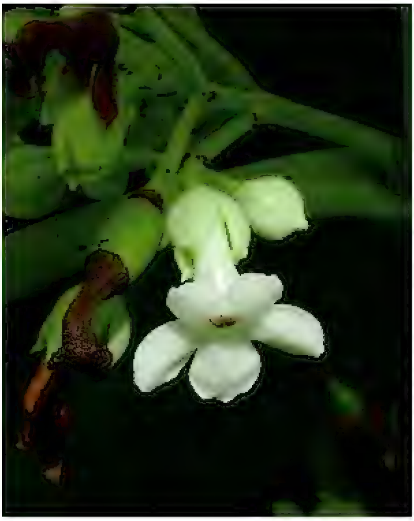
The Discovery

The historic story of *Cyrtandra* first begins with Sir Joseph Banks and Daniel Solander, naturalists aboard the *HMS Endeavor* led by Capt. James Cook (Gillett, 1973). The year was 1768. As the story goes, Capt. Cook, the now famous 18th Century nautical explorer, and his crew, by order of the British Royal Geographic Society, set out for Tahiti (then known as George III Island) (Kerl, 2000). The voyage's main goal was not to discover gesneriads (who knew?), but rather part of an elaborate mission, dreamt up by Edmund Halley (of comet fame), to calculate the Earth-sun distance using Venus and three remote vantage points on Earth. The crew made it to Tahiti in April of 1769 and remained there for three months. In that time, Cook and his crew fulfilled their "astronomical" duties, charted the island of Tahiti, and made the first collections of *Cyrtandra*. Banks and Solander made many other plant collections of new and different species and ultimately took these back to Europe for future study. Swamped by their many finds, however, the naturalists did not get around to describing the new gesneriad genus they had collected.

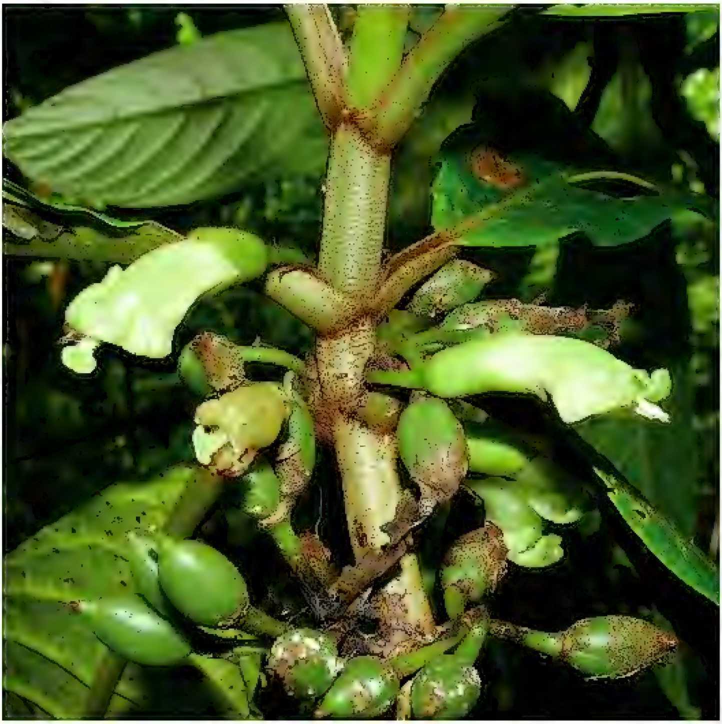
It was not until after Cook's second South Pacific voyage (1772-1775) that *Cyrtandra* would become officially known to the world. Following a dispute with Banks that subsequently led to his withdrawal from the second voyage (Kerl, 2000), Cook gained the services of the German father-son naturalist duo Johann Reinhold Forster and Johann Georg Forster (Nicholson & Fosberg, 2004). Forster and Forster went on to make many botanical discoveries during island forays from Cook's second ship, the *HMS Resolution*. Cook, the Forsters, and crew visited many Pacific islands during this trip, making important discoveries along the way. A year after their voyage, the Forsters revealed the new genus to science – they named it *Cyrtandra* from the Greek *kyrtos* (curved) and *andros* (stamens/male) in reference to the genus' distinctive curved stamens. Since this time, *Cyrtandra* species have been discovered on most Pacific high islands, as well as throughout the islands of Southeast Asia and neighboring tropical regions.



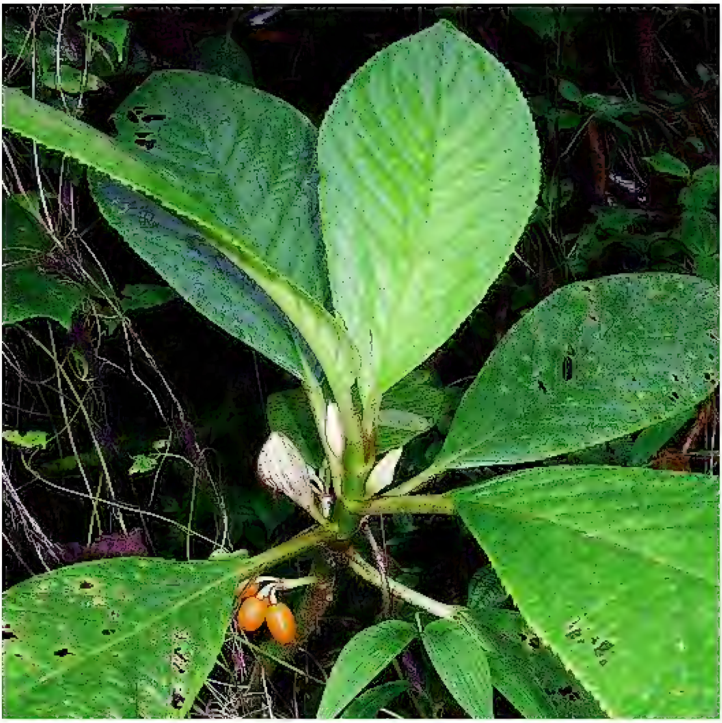
Cyrtandra hawaiiensis
photo of collected specimen
from island of O'ahu, Hawai'i
(elevation: 251 meters)



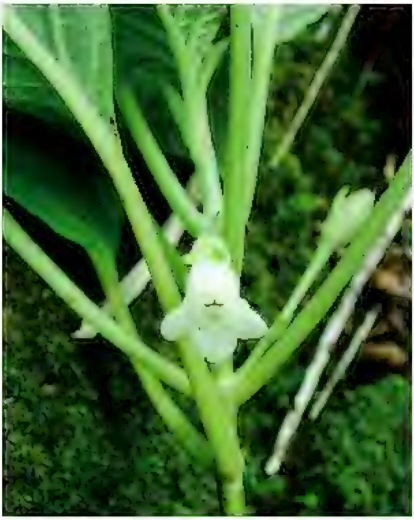
Cyrtandra samoensis
photo of specimen in the
National Trop. Bot. Garden
living collection (originally
collected in American Samoa)



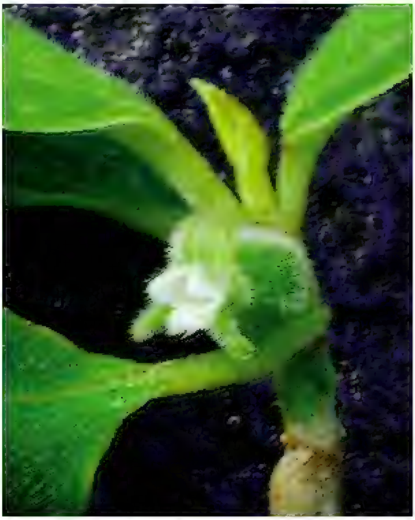
Cyrtandra richii
photo of collected specimen from the island
of U'polu, Samoa (elevation: 821 meters)



Cyrtandra pogonantha
photo of collected specimen from the island
of U'polu, Samoa (elevation: 706 meters)



Cyrtandra sandwichensis
photo of collected specimen
from the island of O'ahu, HI
(elevation: 458 meters)



Cyrtandra kealiae
photo of collected specimen
from the island of Kaua'i, HI
(elevation: 268 meters)

How I Became Involved

Following my inevitable infatuation with gesneriads (thanks to Jeanne Katzenstein, Larry Skog and Bruce Holst), it was only a matter of deciding what group to study. Dr. Skog had previously convinced me that I should return to university after a two-year hiatus since completing my master's degree. He thus connected me with Eric Roalson, a former post-doc at the Smithsonian, now a professor at Washington State University. I soon was signed up to do my Ph.D. under Dr. Roalson's wing, but I still had not settled on a gesneriad subject. Dr. Skog had suggested that *Paradrymonia* was worthy of revision and I was intrigued with the idea of traveling in South America. Dr. Roalson, however, had become interested in *Cyrtandra* following his discussions of the Hawaiian species with Warren L. Wagner, senior botanist at the Smithsonian and co-author of the Flora of Hawai'i. Dr. Wagner had spent a great deal of time unraveling species concepts for Hawaiian *Cyrtandra* and related to Dr. Roalson the intricate hypothesis of its dispersal and radiation throughout the Pacific. In turn, Dr. Roalson conveyed the research possibilities to me. I soon agreed that *Cyrtandra* and the South Pacific were the way to go.

Once settled on *Cyrtandra*, I began to research what was known about the genus and who was studying what in this group. It turned out that quite a bit of research was being conducted on *Cyrtandra*. Folks at the Edinburgh Botanic Garden in Scotland, including Bill Burtt, Quentin Cronk, and Hannah Atkins, had done extensive work on *Cyrtandra* on the islands of Southeast Asia including Sumatra, Java, Borneo and the Philippines. Mr. Burtt was perhaps the most prominent of these researchers having discovered and described many *Cyrtandra* species over the last half century. Dr. Cronk (now director of the University of British Colombia Botanical Garden, Vancouver, BC) also spearheaded much contemporary work in the genus, most recently publishing a preliminary molecular phylogeny (a hypothesis of evolutionary relationships based on genes) for the genus (Cronk et al. 2005). Additional work has been conducted in the South Pacific by Michael Kiehn, Anton Weber and others. Jim Smith (Boise State University) was also working in the group in collaboration with many of these researchers. In discussions and correspondence with most of these scientists, and in collaboration with Dr. Roalson and Dr. Wagner, I decided to focus my efforts on the detailed dispersal and evolution of *Cyrtandra* in the Pacific.

My Research

The specific nature of my research is known as phylogenetics and phylogeography. **Phylogenetics** is the study of evolutionary relationships among organisms. **Phylogeography** is the study of a taxon's (in this case *Cyrtandra*'s) geographic distribution (*biogeography*) in terms of phylogeny. In other words, I am studying how *Cyrtandra* species are related to one another and how these species came to be where they are today. Think of it as an elaborate genealogy and "Where are they now?" story stretched out over geologic time (millions of years).

To address these research questions, I am using genes to reconstruct the evolutionary history of Pacific *Cyrtandra* (this is known as *molecular systematics*). Dr. Cronk and several other researchers used similar techniques in establishing that Pacific *Cyrtandra* may have originated from a single Pacific introduction (Cronk et al. 2005). By using genes and detailed field study, I hope to elaborate on this hypothesis by establishing how *Cyrtandra* dispersed among the Pacific Islands. The goal is to trace the dispersal of *Cyrtandra* from its present-day furthest reaches back to its birth in Southeast Asia.

Adventure of the Tropics

A large part of my research actually involves going out in the field in search of specimens. Tropical fieldwork, despite the inherent difficulties, is one of the greatest draws for me as a botanist. This affinity I have has no doubt been fueled since my childhood. My interest in plants and science was instilled in me by both my mother, an avid gardener and naturalist, and my aunt, a grade school teacher and keen scientist in her own right. Harrowing adventure tales, whether in novels or old movies, further sparked my imagination. These combined interests fostered a deep desire within me to explore and to know. As a young college student increasingly interested in botany, I dreamed of exploring the world's tropical forests. Later on, I had the pleasure of meeting many great explorers and researchers that actually lived such adventurous lives. I have grown to admire these people and have long wished to live similar romantic adventures.

As my career goals have solidified as a botanist, I have taken several trips to various locales south into the tropics. These trips have definitely lived up to (and exceeded) my expectations in many ways. The reality of such work is often times anything but romantic, however. Even when everything goes according to plan, it is still a rough time. It rains... buckets of rain. Everything, including the insects, animals and (even) plants, seem destined to sabotage the expedition by pricking, poking, and stinging one towards insanity. The occasional (seemingly inevitable) tropical illness can thwart the best-laid plans sending the victim into dismal discomfort or worse. Even the terrain itself is difficult and treacherous. One cannot help but trip, slip, slide or fall. At times it seems inevitable that a steep cliff will be the feared swift end!

View (looking west) from Mt. Lepu'e on the island of U'polu, Samoa

After each trip, however, when I'm safely back at my desk, in front of a computer, my mind inevitably begins to wander back to those steamy jungles. Time softens the edges and I remember the fun and excitement without the pain and troubles. I remember the joy of finding *Cyrtandra* in the field, of seeing sights that few have seen, and the thrill of meeting new and interesting people wherever I go. Yes, the draw of tropical fieldwork is no small part of why I study *Cyrtandra.*

Conclusions

As I am sure you have noticed in reading this article, my interest in gesneriads may differ somewhat, in part, from that of many AGGS members. Despite this, I am as likely as anyone to gaze at and admire a brilliant flower. To me, however, a dull, white flower has an equal, if somehow different, appeal. I have come to believe that the dynamic evolutionary history of *Cyrtandra* is a particularly engaging tale worth knowing. Sure, I could be as equally engaged by a "more showy" group, but, by chance, luck, or what-have-you, I have fallen in with *Cyrtandra.* I guess this is the only real answer to why I am studying the group. It seems to fit me, in a way, and I am happy with that. So, the next time I am asked "Why *Cyrtandra*?", I will simply reply, "Why not?" After all, it has been said that a 'why not-philosophy' is a recipe for an interesting life. As I eagerly plan my next trip to the South Pacific in search of *Cyrtandra*, I would have to agree.

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Nicolson, D.H. & F.R. Fosberg. 2004. The Forsters and the Botany of the Second Cook Expedition (1772-1775). Regnum Vegetabile 139: [1]-759. Gesneriaceae is on pp 457-459 *Cyrtandra biflora* F.R. Forst. & G. Forst. [457-458] and *C. cymosa* J.R. Forst. & G. Forst. [458-459].

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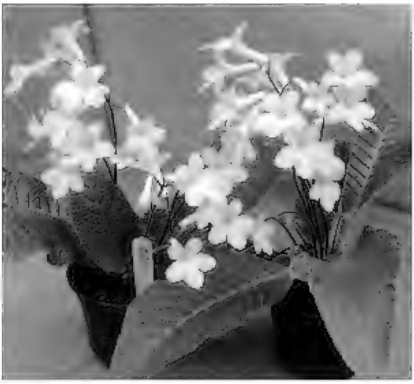
The following registrations should be added to the Registered Gesneriads List found in Appendix C of the 1990 Gesneriad Register.

03865	*Streptocarpus* 'Franken Alison'	*S.* 'Ruby Anniversary' sport	F. Davies/K. Jones
03866	*Streptocarpus* 'Franken Clover Pixie'	*S.* seedling K12 × *S.* seedling CR15	F. Davies/K. Jones
03867	*Streptocarpus* 'Franken Violet Pixie'	*S.* seedling K12 × *S.* seedling CR15	F. Davies/K. Jones
03868	*Streptocarpus* 'Nonsuch Mulberry Ruffles'	*S.* 'Chorus Line' × (*S.* 'Wiesmoor Red' × unnamed pink seedling)	Lesley Carnegie
04869	*Sinningia* 'Ozark Petunia Edge'	*S.* 'Alexandra' × *S.* 'Country Garden'	David Harris
04870	*Sinningia* 'Ozark Rosey Freckles'	*S.* 'Country Crocus' × *S.* 'Piglet'	David Harris
04871	*Sinningia* 'Ozark Waterfall'	(*S.* 'Scoundrel' × self) × *S.* 'Laura'	David Harris
04872	*Sinningia* 'Ozark Rosy Cheeks'	*S.* 'Glory Me' × *S.* 'Super Orange'	David Harris
04873	*Streptocarpus* 'Northwoods Frosty Girl'	*S.* 'Canterbury Surprise' × ('*S.* 'Canterbury Surprise' × *S.* 'Winter Dreams')	Jeanne Krieger
04874	*Streptocarpus* 'Northwoods Pansy Doll'	*S.* 'Hand Painted' × *S.* 'Thalia'	Jeanne Krieger
04875	*Streptocarpus* 'Northwoods Purple Lightning'	*S.* 'Something Special' × *S.* 'Blue Beard'	Jeanne Krieger
04876	*Streptocarpus* 'Sviatoslav Richter'	*S.* 98I-5 (697) × *S.* 'Blue Beard'	George Gessert
04877	*Nematanthus* 'Ray'	*N.* 'Christmas Holly' × *N.* 'Black Gold' open pollinated	Judy Becker
04878	*Streptocarpus* 'Ruth Currier'	*S.* 995-4 (935) × *S.* 00H-5 (1033)	George Gessert

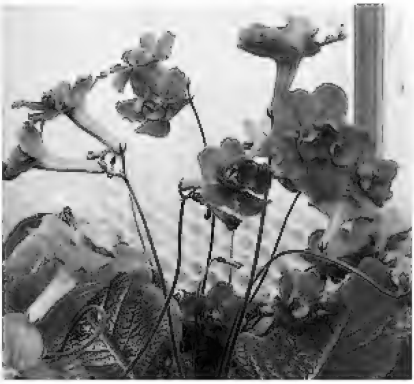
Streptocarpus **'Franken Alison'**, 2003, IR03865, Frank Davies and Ken Jones, UK. (mutation of *S.* 'Ruby Anniversary'). Fertile but reproducible only vegetatively. Compact rosette. Leaves medium green, 8" long × 2-1/2" wide, elliptic with crenate margin, acute tip and cordate base. Calyx green, fused, 1/4" long, 3 flowers per peduncle. Corolla salverform, 1-1/4" long × 1-1/4" wide, white with yellow throat, deep pink lines from throat onto lower lobes. Available from Oakland Nurseries, UK.

Streptocarpus **'Franken Clover Pixie'**, 2003, IR03866, Frank Davies and Ken Jones, UK. (*S.* seedling K12 × *S.* seedling CR15). Cross made 1999, planted and first flowered 2000. Fertile but reproducible only vegetatively. Small rosette. Leaves medium green, linear with crenate margin, acute tip and cuneate base. Calyx brown, fused, 3/4" long, 8 flowers per peduncle. Corolla salverform, 1" long × 3/4" wide, pale pink with white throat. Available from Oakland Nurseries, UK.

Streptocarpus **'Franken Violet Pixie'**, 2003, IR03867, Frank Davies and Ken Jones, UK. (*S.* seedling K12 × *S.* seedling CR15). Cross made 1999, planted and first flowered 2000. Fertile but reproducible only vegetatively. Leaves medium green, linear with crenate margin, acute tip and cuneate base. Calyx brown, fused, 3/4" long, 8 flowers per peduncle. Corolla salverform, 1" long × 3/4" wide, violet with white throat, darker markings on lower three lobes. Available from Oakland Nurseries, UK.



Streptocarpus
'Franken Clover Pixie'



Streptocarpus
'Nonsuch Mulberry Ruffles'

Streptocarpus **'Nonsuch Mulberry Ruffles'**, 2003, IR03868, Lesley Carnegie, UK. (*S*. 'Chorus Line' × [*S*. 'Wiesmoor Red' × unnamed pink seedling]). Cross made 1998, planted 1999 and first flowered 2000. Fertile but reproducible only vegetatively. Rosette. Leaves medium to dark green, 12" long × 3-1/2" wide, linear with undulate margin, acute tip and cuneate base. Calyx deep olive green, fused, 1/4" long, 7 flowers per peduncle. Corolla double, salverform, 1-3/4" long × 1-3/4" wide, outer petals deep crimson, slightly frilled and occasionally striped deep red. Central petals show white on reverse. Blooms May to December.

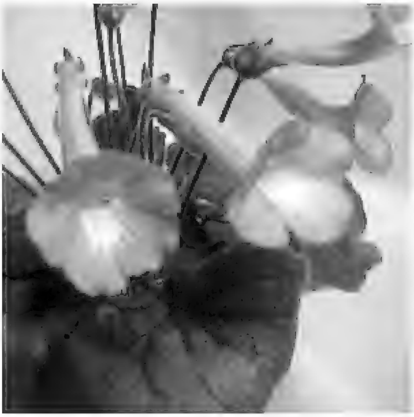
Sinningia **'Ozark Petunia Edge'**, 2004, IR04869, David Harris, MO. (*S*. 'Alexandra' × *S*. 'Country Garden'). Cross made Feb. 21, 2001, planted Mar. 28, 2001 and first flowered Feb. 26, 2002. Reproducible only vegetatively. Miniature rosette. Leaves medium green with red veins, 2-1/4" long × 2" wide with 1/2" petiole, ovate with cuneate base. One flower in leaf axil. Corolla salverform, 1-3/4" long × 1" wide, bright rose with darker edging and a cream throat. Available from Dave's Violets.

Sinningia **'Ozark Rosey Freckles'**, 2004, IR04870, David Harris, MO. (*S*. 'Country Crocus' × *S*. 'Piglet'). Cross made Feb. 5, 2002, planted Mar. 20, 2002 and first flowered Oct. 19, 2002. Reproducible only vegetatively. Miniature rosette. Leaves dark green with red veins, 2-1/2" long × 2" wide with 1/2" petiole, ovate with cuneate base, one flower per leaf axil. Corolla salverform, 2" long × 1" wide, dark coral pink with white throat, fuchsia freckles on throat and face. Available from Dave's Violets.

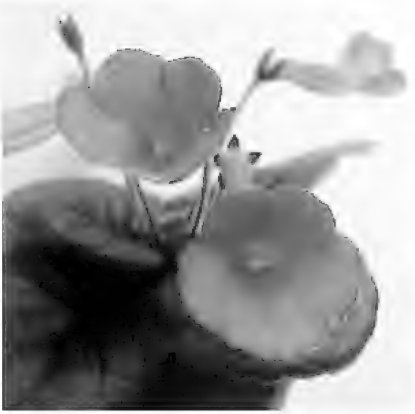
Sinningia **'Ozark Waterfall'**, 2004, IR04871, David Harris, MO. ([*S*. 'Scoundrel' × self] × *S*. 'Laura'). Cross made Feb. 6, 2002, planted Mar. 20, 2002 and first flowered Dec. 27, 2002. Reproducible only vegetatively. Miniature rosette. Leaves dark green with red back, 2-1/4" long × 2" wide with 3/4" petiole, ovate with cuneate base. 1 flower per leaf axil. Corolla salverform, 2" long × 1-1/4" wide, vivid lavender, stripes of yellow to fuchsia in throat with occasional white spots on lower lobe. Available from Dave's Violets.

***Sinningia* 'Ozark Rosy Cheeks'**, 2004, IR04872, David Harris, MO. (*S.* 'Glory Me' × *S.* 'Super Orange'). Cross made May 21, 2002, planted June 17, 2002 and first flowered Mar. 26, 2003. Reproducible only vegetatively. Miniature rosette. Leaves dark green, red back, 2-1/4" long × 2" wide, ovate with cuneate base. One flower per leaf axil. Corolla salverform, 1-3/4" long × 1" wide, bright fuchsia with darker shading in throat. Available from Dave's Violets.

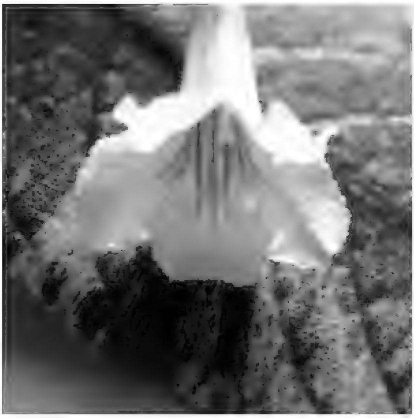
***Streptocarpus* 'Northwoods Frosty Girl'**, 2004, IR04873, Jeanne Krieger, WI. (*S.* 'Canterbury Surprise' × ['*S.* 'Canterbury Surprise' × *S.* 'Winter Dreams']). Cross made Feb. 7, 2003, planted Apr. 28, 2003 and first bloomed Dec. 2003. Fertile but reproducible only vegetatively. Rosette. Leaves smooth, green and white, 8" long × 2-1/2" wide, elliptic with crenate margin, acute tip and cuneate base. Calyx green, split, 1/2" long, 2 flowers per 5-1/2" peduncle. Corolla salverform, 3" long × 2" wide, pale pink with darker pink streaks in white throat. Available from Belisle's Violet House.



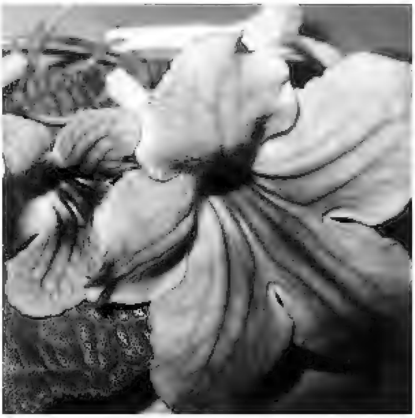
Sinningia 'Ozark Petunia Edge'



Sinningia 'Ozark Rosy Cheeks'



Streptocarpus
'Northwoods Frosty Girl'



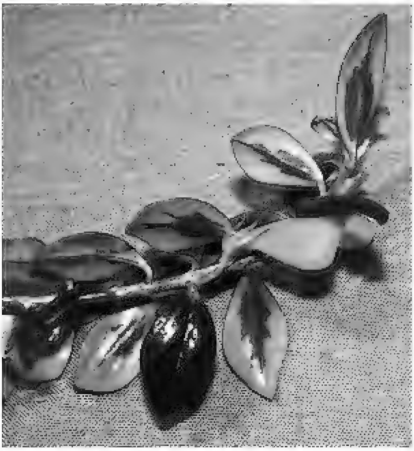
Streptocarpus
'Northwoods 'Purple Lightning'

***Streptocarpus* 'Northwoods Pansy Doll'**, 2004, IR04874, Jeanne Krieger, WI. (*S.* 'Hand Painted' × *S.* 'Thalia'). Cross made Dec. 29, 2002, planted Mar. 22, 2003 and first flowered Sept. 21, 2003. Fertile but reproducible only vegetatively. Rosette. Leaves smooth, dark green, 11" long × 3" wide, elliptic with crenate margin and acute tip. Calyx green, split, 1/2" long, peduncle 9" tall with 2 flowers. Corolla salverform, up to 4" long × 3" wide, lavender with yellow throat streaked with darker purple. Available from Belisle's Violet House.

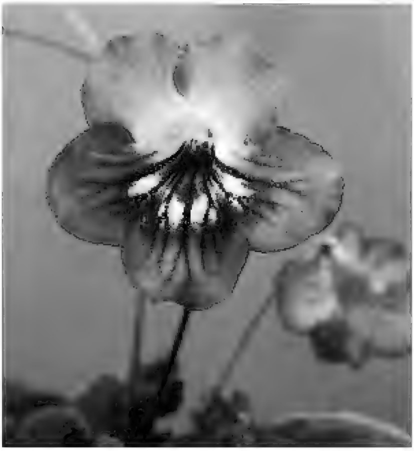
***Streptocarpus* 'Northwoods Purple Lightning'**, 2004, IR04875, Jeanne Krieger, WI. (*S.* 'Something Special' × *S.* 'Blue Beard'). Cross made Dec. 2001, planted Mar. 2002 and first bloomed Dec. 2002. Fertile but reproducible only vegetatively. Rosette. Leaves smooth, medium green, up to 18-1/2" long × 3-1/2" wide, elliptic with crenate margin, acute tip and cuneate base. Calyx split, green, 1/2" long with 2 flowers per 12" peduncle. Corolla salverform, 3-1/2" long × 3-1/4" wide, blue purple with dark magenta veining on lobes and more intense magenta markings on lower three lobes and throat. Available from Belisle's Violet House.

***Streptocarpus* 'Sviatoslav Richter'**, 2004, IR04876, George Gessert, OR. (*S.* 98I-5 [697] × *S.* 'Blue Beard'). Cross made Apr. 27, 2000, planted Nov. 10, 2000 and first flowered May 15, 2001. Fertile but reproducible only vegetatively. Rosette. Leaves green, 8" long × 3-1/2" wide, linear with entire margin, acute tip and cuneate base. Calyx green, 1/4" long, peduncle 5-6" long with 1-2 flowers. Corolla salverform, ruffled, powdery blue with many irregular dark lines extending from white throat.

***Nematanthus* 'Ray'**, 2004, IR04877, Judy Becker, CT. (*N.* 'Christmas Holly' × *N.* 'Black Gold') open pollinated. Cross planted 1986, first bloomed 1989. Reproducible only vegetatively. Compact, spreading. Leaves glossy, dark green with reddish blotch on reverse, 2.5 cm long × 1.2 cm wide with 4 mm petiole, elliptic with entire margin, acute tip and cuneate base. Calyx split,



Nematanthus 'Ray'



Streptocarpus 'Ruth Currier'

green, 10 mm long. Pedicel 1 cm long with one flower per leaf axil. Corolla ventricose, 2.7 cm long × 1 cm wide, narrowing at limb, orange-red with golden interior. Available from Lauray of Salisbury.

***Streptocarpus* 'Ruth Currier'**, 2004, IR04878, George Gessert, OR. (*S.* 995-4 [935] × *S.* 00H-5 [1033]. Cross made May 25, 2001, planted Nov. 30, 2001 and first flowered May 31, 2002. Fertile but reproducible only vegetatively. Rosette. Leaves hairy, warm green, to 7" long × 3" wide, elliptic with undulate margin, acute tip and cuneate base. Calyx green, 1/4" long, peduncle 5" tall with 1-3 flowers. Corolla salverform, 1-1/2" long × 2-1/2" wide, deep purple-blue with a dramatically patterned throat, solid black-purple interior below, then a patch of purple-blue, then a ring of white crossed by heavy black lines.

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Moving Plants Across Country

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As most of our members realize, I am newly relocated in Seattle, Washington as of September 1, 2004, from my former home in Lawrence, Massachusetts. Even though the move was planned far in advance, getting packed and getting a house sold was rather stressful.

I had made two previous trips to Seattle to check out the city and to scout around. With my living arrangements already determined, I knew I could take plants with me and they would be cared for there until my relocation was complete. On both trips, I packed and brought as many suitcases as the airlines would permit: two checked bags with clothes, shoes, etc., and two carry-on bags. Each time I packed one large carry-on with plants. A couple of days before packing, I let the plants dry out to increase their flexibility and reduce breakage. I lined the suitcase with dry-cleaning plastic and then packed miniature and semi-miniature Saintpaulias intact in their pots into Ziploc bags, blowing air into them before sealing to cushion the plants. (Standard Saintpaulias I had more of a difficult time with and saved them for the big move to come.) I packed as many plants in that suitcase as I could fit in. Indeed, packing it tightly was good for the plants because there was no room for them to move. Upon reaching my destination, I was able to unpack the plants and set them in natural light to adjust to their new surroundings. All plants that were transported this way made the trip fine. Broken leaves? Yes, but that is part of the process, and of course those broken leaves went down into potting mix as insurance, just in case I lost more to come.

As the big moving day approached and the packing of boxes was finishing, I had to figure out how to get the remaining plants to Seattle. I still had far too many to bring with me on the airplane. When I figured out that I needed the moving company to actually move several boxes of plants, I had doubts that I would ever see the plants alive again, but I hoped for the best. The moving company said that it would be about a week before the truck would arrive in Seattle, so I thought they would be fine for that amount of time without light or extra water. I obtained three long, thick Styrofoam cases (the type used for transporting flowers or seafood) which I knew would protect the plants from temperature damage. Now I had to tackle the problem of my larger gesneriads, standard Saintpaulias, and begonias. I started by packing the larger plants. I used the same method as before with one difference. I removed the plants from their pots which made them much easier to pack in a row. I used large, gallon-sized Ziploc bags for packing these. I made sure the soil was only slightly damp because I didn't want them to rot. The foliage was sure to get dirty, but I planned to give the plants a nice healthy bath when I unpacked and repotted them. I also packed these containers full and as tight as possible.

Another problem arose: I had two trays of leaf cuttings and seedlings in propagation trays with transparent domes. I had already packed the plants, and there was no more room for these trays! Fortunately, I found two cardboard boxes that held the trays very tightly. I taped the tops onto the trays thinking perhaps they wouldn't get too jostled ... and once again, hoped for the best.

When moving day arrived, I was aghast when the movers arrived in a truck far too small to handle all my furniture and boxes. They said that it "should" all fit. Rather than worry about it, I just let them do their work and continued to finish the job of packing and getting ready to leave the next day. A couple of hours later, I went down to check out the truck and see how the movers were doing. I was glad that I had packed those boxes so tightly as the movers had the boxes in all kinds of odd ways – sideways, upside-down, etc., (oh, the pain... the pain...). There was nothing to do but wait and see how the plants fared when I unpacked them the following week.

After my flight to Seattle, I had a chance to get my new home ready for the moving truck which was expected in a few days. Unfortunately, a few days drew out to be almost four weeks. I made many frustrating calls and finally the moving van arrived. I was not really anxious about the plants as I figured most of them would be dead after being enclosed that long in the dark and without water, so I just let the men work. They unloaded very efficiently and quickly. After their departure, I took stock of everything and started to look for the boxes of plants and the Styrofoam "coffins" holding what I was sure to be black muck in bags.

The first box I came across was one of the ones with the leaf cuttings. I opened it with some trepidation. I sliced the tape off and found wonderful, lush little baby plants on sturdy leaves. The plantlets looked fine! A few of the leaves had rotted, but most were intact and alive! Wonderful! They were apparently unaffected by the long period of darkness.

Then I rearranged many other boxes to get to the large Styrofoam ones. I sliced the packing tape off, and, to my great surprise, the plants inside showed some signs of life! Most of the African violets actually made the trip quite well. Several of the fussy ones and species, however, were lost in the whole melodrama. Most of the gesneriads made the trip reasonably well, except the epiphytic genera like *Nematanthus, Aeschynanthus* and *Columnea*. Without light, all of these defoliated and were black sticks upon unpacking. The begonias fared poorly as well.

Now that the whole moving experience is behind me and the light stands are up and running, I have joined the Seattle African Violet Society and the Puget Sound Gesneriad Society. I have restocked and my plants are back and hopefully adjusting to their new environment. The growing conditions here are quite different, and I have to adjust my routine somewhat to accommodate this. In Lawrence, the plant stands were in a cool damp basement. Here in Seattle they are in a second floor bedroom that is very well insulated. With the lights on, it gets quite warm, and I have to water a bit more regularly.

The move is over, despite many problems, and I am very happy it is. I am settling in, enjoying my plants once again, and getting accustomed to this lovely part of the United States. If you are planning on coming to the Pacific Northwest or Seattle area, please drop me a line … I would love to visit.

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In Search of Flowers and Pollinators: a Ten-Day Trip in Jamaica

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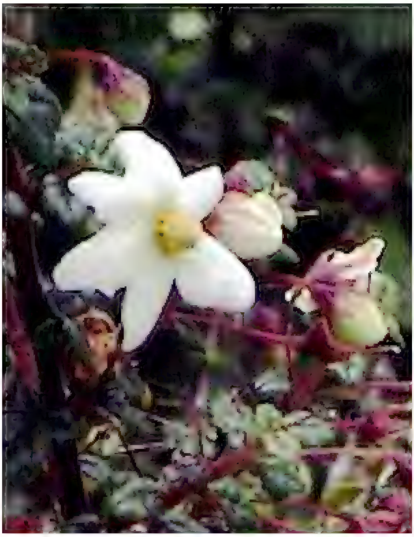
Islands are wonderful natural laboratories for the study of evolution. In many ocean archipelagoes, the colonization of multiple islands by a single species has resulted in extraordinary radiations of many species adapted to different environments. Some well known examples of animal radiations are Darwin's finches in the Galapagos Islands, Hawaiian honeycreepers and anole lizards in the Caribbean. Similarly, classic examples of plant radiations are lobeliads, silverswords and the genus *Cyrtandra* in Hawaii. Here, I would like to share my experience studying an equally fascinating, but much less understood plant radiation: the tribe Gesnerieae in the Caribbean archipelago. I will briefly describe my study system and the objectives of my research and then I will focus on my collecting trip to Jamaica which was funded by the AGGS Elvin McDonald Research Endowment Fund.

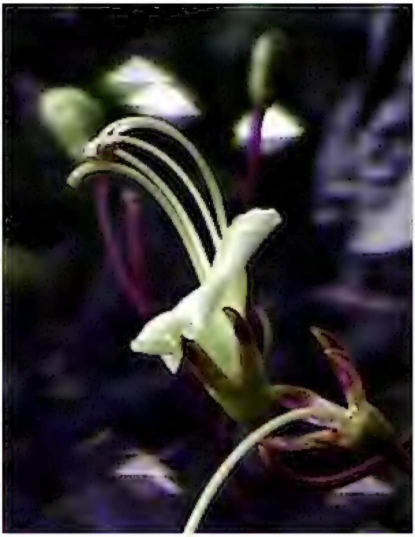
The tribe Gesnerieae includes seventy closely related species in the genera *Gesneria, Rhytidophyllum*, *Bellonia* (from Hispaniola), and *Pheidonocarpa*, found almost exclusively in the Caribbean Islands. The radiation of Gesnerieae was associated primarily with changes in floral morphology, growth form and habitat. Gesnerieae flowers of various species differ in color and shape but the general floral designs reflect characters associated with hummingbird, bat and bee pollination. For example, red tubular flowers are associated with hummingbird pollination while white, bell-shaped flowers that produce nectar at night are associated with bat pollination. Growth forms range from short rosettes usually found in moist shady environments, to small shrubs overhanging limestone cliffs, to small trees found in diverse habitats. The major goals of my doctoral dissertation research are to determine where Gesnerieae species came from, how they relate to each other and how interactions with pollinators have influenced the evolution of the different floral designs. To do this, I have traveled to various islands to collect plants, measure floral traits (i.e., corolla length and width, and nectar production) and obtain tissue samples for DNA analysis. I have also conducted observations and ran experiments to determine whether floral visitors are legitimate pollinators, or animals that visit flowers to rob pollen or nectar.

In January 2004 I took my third research trip to collect plant samples and conduct pollinator observations of Gesnerieae, this time to Jamaica. The island harbors close to 15 species of Gesnerieae, most of which are endemic (i.e., they occur in Jamaica and nowhere else in the world). Despite its small size (only 4223 square miles), Jamaica has the complexity of a mainland region. High mountains and rugged limestone terrain cover much of the interior of the island, whereas dry hills and lowlands characterize coastal regions. The climate varies greatly within very short distances ranging from hot/ humid or hot/dry near the coast, to cool/humid in mountainous regions. Gesneriads are found in nearly all these environments, from sea level to more than 7000 feet in elevation. Most Gesnerieae species have small populations or narrow distributions so collecting them entails much driving and hiking.

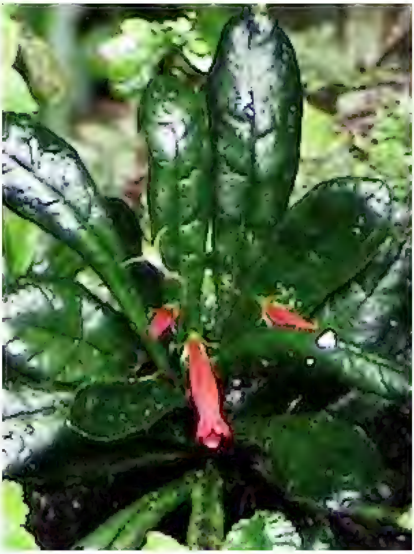
Gesnerieae Floral Designs



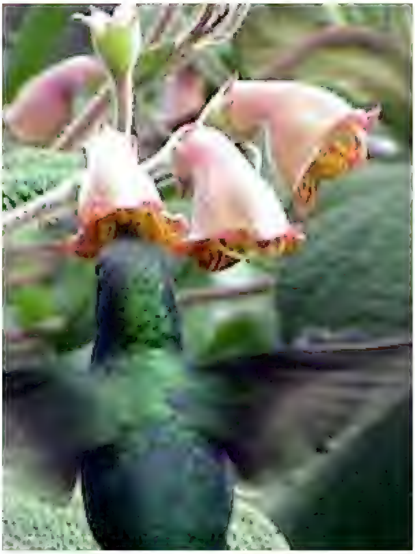
Flower of *Bellonia aspera*
(bee pollinated)



Flower of *Gesneria pedunculosa*
(bat pollinated)



Flower of *Gesneria cuneifolia*
(hummingbird pollinated)

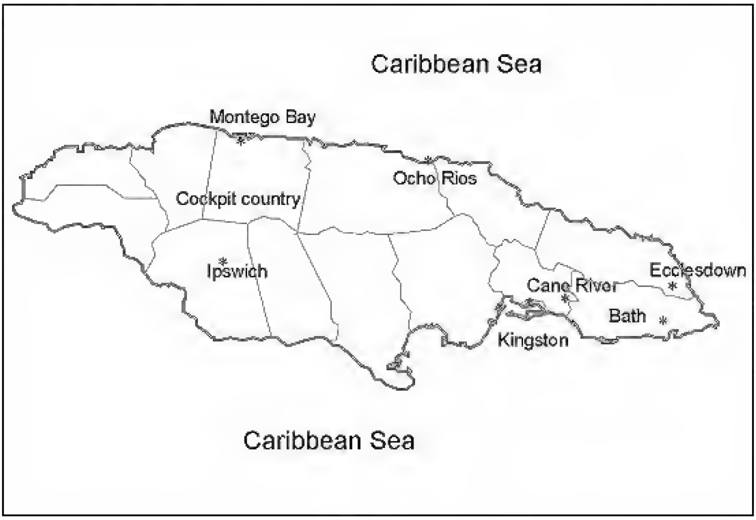


Flowers of *Rhytidophyllum vernicosum*
with Hispaniola Emerald Hummingbird

My collecting expedition started in Kingston, Jamaica where I spent two days looking at herbarium specimens and planning my upcoming field trips. In this endeavor I was kindly assisted by Dr. George Proctor, of the Botany Department of the Institute of Jamaica. Two Jamaican biologists, Keron Campbell and Tracy Commock, also provided invaluable help in my expeditions throughout the island.

On my first collecting trip I went to the Cockpit Country, one of the most well-preserved areas in Jamaica. The Cockpit Country is characterized by the unique karst topography of rounded hills and deep concave valleys carved out by millions of years of limestone erosion. The ruggedness of the terrain has slowed habitat destruction and development in this part of the island; there are no resorts, no restaurants and no roads across the Cockpit Country. The few inhabitants of the region are said to be descendants of the Maroons, brave African slaves who took refuge in the interior of the island when released by fleeing Spaniards in the late 1600s. This group resisted domination until 1739 when the British had to sign a peace treaty that guaranteed their freedom and rights over the land. In this remarkable historical event, the Maroons were declared free people more than a hundred years before the abolition of slavery in most colonies of the Caribbean.

The forested hills of the Cockpit Country that served as a refuge to Maroon freedom fighters also provide shelter to hundreds of plant and animal species. Five Gesnerieae species occur in this region, all endemic to Jamaica. To find these plants I traveled across the mountains to the northern coast of the island with Francis, a local assistant who accompanied me. Not far from Montego Bay, we left the paved roads and began a bumpy ride south towards Windsor Research Center, a field station that serves as a base for biologists working in the Cockpit country. On the steep, rocky banks of the road to Windsor we found our first gesneriad: *Rhytidophyllum tomentosum*, a short shrub with pale yellow flowers, which is widely distributed across Jamaica. *R. tomentosum* belongs to a group of species thought to be pollinated by bats.

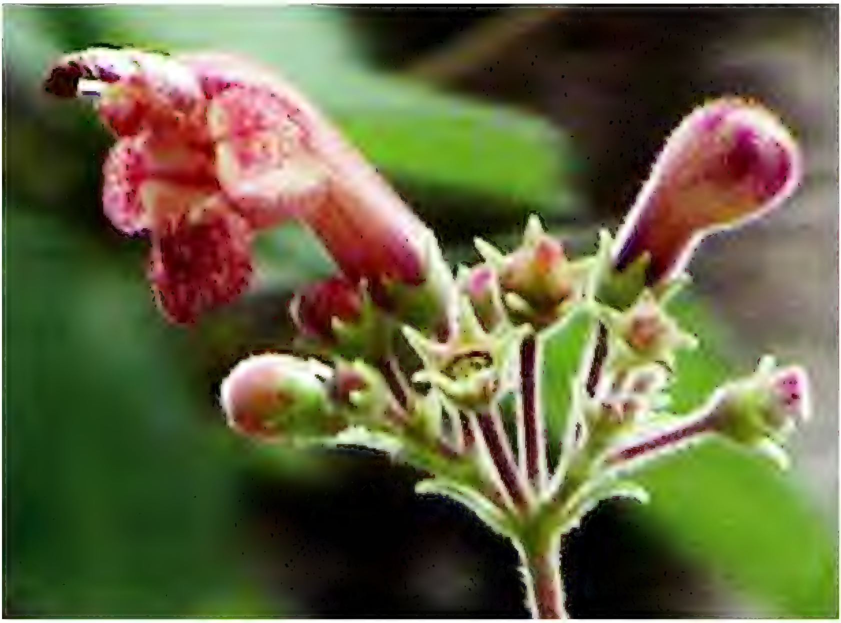


Island of Jamaica

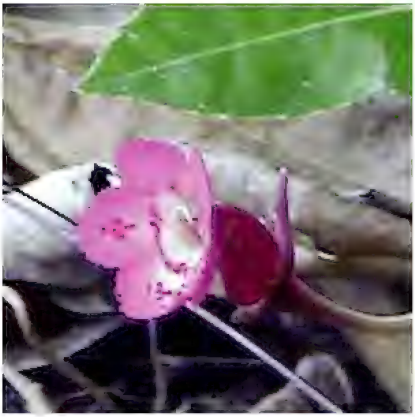
Gesneria acaulis

As soon as we arrived in Windsor, we started our exploration of the cockpit country. For the next two days we hiked long hours, climbing steep stony hills and following unmarked paths through abandoned pastureland and forest. During this time we collected two species of Gesnerieae, both growing in the surroundings of the well-known Windsor Cave. *Gesneria acaulis*, a woody rosette with bright red flowers, was common on the rocky walls along the path to the lower cave entrance. One morning we observed a female Jamaican Mango visiting the flowers of *G. acaulis*. The slightly curved beak of this hummingbird fits the curved corollas of *G. acaulis*. Later that day, on the higher cliffs leading to the upper cave entrance we found *Gesneria calycosa*. In the rocky terrain right in front of the cave there was one *G. calycosa* shrub bearing one wilted flower. This finding was exciting because the cave is known to shelter several species of bats, and the bell-shaped, white flowers of *G. calycosa* are thought to be bat pollinated. Although I was not able to observe bats visiting *G. calycosa*, I recently recorded bats visiting *G. pedunculosa*, a closely related species with similar floral design from Puerto Rico.

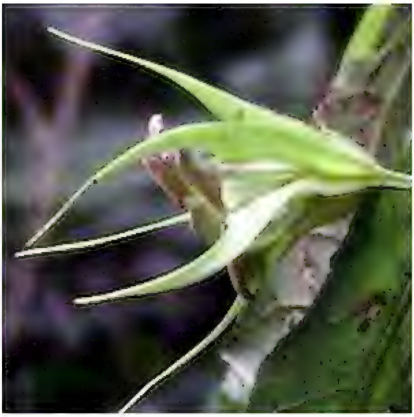
The next morning as the mist lifted up in the narrow valleys of the cockpit country, we started our drive back to Kingston. Accompanied by Keron and Tracy, I then visited the Cane River Falls, the only site where *Pheidonocarpa corymbosa* occurs in Jamaica. An hour east of Kingston we found the bridge over the falls. The sight was amazing; the river had carved its way through the rock forming a deep canyon of vertical walls. *P. corymbosa*, a stout shrub with rough leaves and trumpet-shaped red flowers, was one of the few species able to grow on the bare stone walls of the river gorge. *P. corymbosa* plants were abundant, but were mostly found high up on the canyon walls. In such a narrow river canyon, plants growing close to the water are more likely to get washed away during floods. We walked down the river bed until we found plants that we could reach and observe. Minutes later, we saw our first pollinator visit. A female Red-billed Streamertail probed several flowers and within a few seconds it was gone.



Pheidonocarpa corymbosa



Gesneria jamaicensis



Gesneria onychocalyx

All photos courtesy of Silvana Marten-Rodriguez

Keron and I continued our trip to the western side of the island to look for two rare *Gesneria* species found on cliffs near the town of Ipswich. Although the route to Ipswich appeared straight forward on the map, we had difficulties after we left the major roads due to the lack of signs and people to ask for directions. At one point, we took a wrong turn and ended up on a road that seemed like it had not been traveled for years. We were thinking of turning around, when, on an exposed road bank, something pink caught our eye. Upon closer inspection we discovered it was *Gesneria jamaicensis* in full bloom, the large flaring corolla lobes serving their attractive purpose although, this time, not for the benefit of the plant.

The last collecting trip was to the John Crow Mountains on the eastern end of the island. The small town of Ecclesdown at the foothills of the Mountains served as a meeting place where Keron and I waited for Dr. Proctor and two visiting Finnish fern botanists. Led by a local guide we walked through the lush rainforests of the region where I found two more *Gesneria* species. *Gesneria onychocalyx* is a rare small tree with green campanulate flowers and large calyx lobes that has only been collected in flower a few times before. Later that evening we drove to the town of Bath and in the morning we started our hike towards Corn Puss Gap. After getting lost a couple times, we finally managed to find the trail to the Gap. Unfortunately, the forest was highly disturbed and after many hours of hiking, our only consolation was finding a tree of delicious water apples (*Zyzygium* sp.). My companions decided to turn around and I continued the literally fruitless search for another hour. I had just started my way back when, in a tiny patch of forest, I saw a shrubby tree of familiar appearance. It was *Gesneria clandestina* with minuscule flower buds.

After ten days in Jamaica I collected samples and measured flowers for more than half of the species and recorded pollinators for two of them. In the future I plan to study the pollination biology of selected Gesnerieae species with different floral designs. Particularly, I would like to explore the role that different floral visitors (e.g., bats, hummingbirds, moths) play in the reproduction of these plants. I am also working on the reconstruction of the evolutionary relationships among Gesnerieae species, which will help decipher whether different pollination systems arose independently on different islands. The puzzle is still missing many pieces, but as it takes shape it reveals the story of a fascinating plant radiation in the Caribbean archipelago.

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